

JOHN MARSHALL REEVE

Understanding Motivation and Emotion

Seventh Edition



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UNDERSTANDING MOTIVATION AND EMOTION

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PREFACE

Now is an ideal time to take a course in motivation and emotion. This is because motivation and emotion scientists have just completed a highly productive decade in understanding how human motives operate. The field is now in a “golden age.” Each year, new discoveries are made, new insights are gained, and new theories emerge and are validated. As a whole, the field can now provide clear and deeply satisfying answers to core questions, such as the following: What do people want?; Why did she do that?; From where do motivation and emotion come?; Why do motivation and emotion change?; and What good are they—what do motivation and emotion predict and explain?

The book’s title is *Understanding Motivation and Emotion*, and many pages of the book are devoted to this purpose. A deep understanding is great, but it is even better to take the next step and actually apply that knowledge to improve people’s lives. As a field, we now understand the nature of motivation and emotion, their causes, the conditions that affect them, and how motivational and emotional processes lead to productive outcomes such as learning, performance, and well-being. The field’s understanding is so deep that researchers can now confidently offer practical recommendations. The book includes several state-of-the-art intervention programs designed explicitly to enhance people’s motivation and emotion so to improve their lives in some important way. Because this is so, it may now be time to re-title the book as, *Understanding and Applying Motivation and Emotion*.

By the time you turn the book’s last page, I hope you will gain two important achievements. First, I hope you gain a deep and sophisticated understanding of motivation and emotion. Second, I hope you will gain the practical know-how to apply that knowledge in a concrete and personally meaningful way. Motivational and emotional principles and findings can be applied in many domains, but the most obvious include the home, school, workplace, clinical setting, counseling center, gym, athletic field, all aspects of health care, and interpersonal relationships in general.

I assumed some background knowledge on the part of the reader, such as an introductory course in psychology. The intended audience is upper-level undergraduates enrolled in courses in the department of psychology. I also write for students in other disciplines, largely because motivation and emotion research reaches into so many diverse areas of study and application, including education, health, counseling, clinical, sports, industrial/organizational, and business. The book concentrates on human, rather than on nonhuman, motivation.

WHAT’S NEW IN THE SEVENTH EDITION

It has been three years since the last edition of the book was published. In that time, two important trends unfolded. First, motivation and emotion scientists were able to reach a greater sense of consensus as to what constructs, ideas, theories, and findings are most important and meaningful. For someone who has spent a lifetime in the field, it was good to see this greater sense of agreement, consensus, and clarity of purpose. This achievement just makes the story of motivation and emotion study an easier story to tell. What this means for the reader is that the seventh edition of the book is 50 pages shorter than the sixth edition. I think students might appreciate this greater clarity and organization. That said, all of the following motivational and emotional phenomena are new to the seventh edition: Expectancy \times Value theories, with a special emphasis on value-promoting interventions; mindfulness, terror management theory; intrinsic goals and extrinsic goals; psychological need frustration; internalization and integration of extrinsic motivations; leadership motivation profile,

coping with failure, two views of the self, including self-as-object and self-as-agent, and the question of whether or not people have a “true self.”

Each chapter features a chapter box that addresses a specific concern. For instance, the box in Chapter 3 uses the information on the motivated and emotional brain to understand how antidepressant drugs work. The box in Chapter 8 uses the information on goals to lay out a step-by-step goal-setting and goal-striving program that can be applied to many different objectives. At the end of each chapter, a set of 10 recommended readings appears. These recommended journal articles represent suggestions for further individual study. I selected these particular readings using four criteria: (1) each reading’s represents what is central to the chapter, (2) its topic appeals to a wide audience, (3) its length is short, and (4) its methodology and data analysis are reader-friendly.

INSTRUCTOR’S MANUAL/TEST BANK

The seventh edition includes an expanded Instructor’s Manual/Test Bank. This supplement includes classroom discussion questions, recommended activities, brief demonstrations of motivational principles, and other tools to help instructors teach their students. Interested instructors should contact their Wiley representative for more information.

ACKNOWLEDGMENTS

Many voices speak within the pages of the book. Much of what I write emerged from conversations with colleagues and through my reading of their work. I have benefited from so many colleagues that I now find it impossible to acknowledge them all. Still, I want to try.

My first expression of gratitude goes to all those colleagues who, formally or casually, intentionally or inadvertently, knowingly or unknowingly, shared their ideas in conversation: Nathalie Aelterman, Avi Assor, Roy Baumeister, Daniel Berlyne, Virginia Blankenship, Mimi Bong, Jerry Burger, Sung Hyeon Cheon, Valery Chirkov, Steven G. Cole, Bud Craig, Mihaly Csikszentmihalyi, Richard deCharms, Edward L. Deci, Andrew Elliot, Marylene Gagne, Nicolas Gillet, Peter Gollwitzer, Wendy Grolnick, Leen Haerens, Martin Hagger, Marc Halusic, Pat Hardre, E. Tory Higgins, Holley Hodgins, Alice M. Isen, Carroll Izard, Hye-Ryen Jang, Hyungshim Jang, Mireille Joussemet, Haya Kaplan, Tim Kasser, Eun-Joo Kim, Sung-il Kim, Richard Koestner, Andraes Krapp, Jennifer La Guardia, Randy Larsen, Woogul Lee, Lisa Legault, George Loewenstein, Chris Lonsdale, Wayne Ludvigson, David McClelland, Lennia Matos, Marina Milyavskaya, Kou Murayama, Henry Newell, Glen Nix, Nikos Ntoumanis, Brad Olson, Erika Patall, Dawn Robinson, Tom Rocklin, Carl Rogers, Guy Roth, Richard Ryan, Oliver Schultheiss, Kennon Sheldon, Paul Silvia, Ellen Skinner, Bart Soenens, Richard Solomon, Martyn Standage, Yulan Su, Silvan Tomkins, Robert Vallerand, Maarten Vansteenkiste, Feliciano Veiga, John Chee Keng Wang, Karin Weber-Gaparoni, Netta Weinstein, Dan Wegner, Geoffrey Williams, and Rex Wright. I consider each of these contributors to be my colleague and kindred spirit in the fun and struggle to understand human strivings.

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I sincerely thank all the students I have had the pleasure to work with over the years. It was back at Ithaca College that I first became convinced that my students wanted and needed such a book. In a very real sense, I wrote the first edition for them. The students who occupy my thoughts today are those with me at Korea University in Seoul, South Korea. For readers familiar with the

earlier editions, this seventh edition presents a tone that is decidedly more practical and applied. This balance comes in part from my daily conversations with students.

Ithaca, New York, is doubly important to me, because it was in this beautiful town in upstate New York that I met Deborah Van Patten of Wiley (then Harcourt College Publishers). Deborah was every bit as responsible for getting this book off the ground as I was. Although 22 years have now passed, I still want to express my heartfelt gratitude to you, Deborah. The professionals at Wiley have been wonderful. Everyone at Wiley has been both a valuable resource and a source of pleasure, especially Lisa Wojcik, Nichole Urban, Nicole Repasky, Judy Howarth, Ethan Lispon, Indirakumari S, and Mike Cullen.

I am especially grateful for the advice, patience, assistance, and direction provided by my psychology editor Veronica Visentin. Thanks.

—*Johnmarshall Reeve*

To Richard Troelstrup, who introduced me to psychology.

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I could participate in this wonderful profession.*

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Introduction

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SUMMARY

Every morning on my way to work, I walk by the same beautiful tree. Some of these mornings are bitterly cold. On these winter days, I realize that I can do something that the tree cannot. I can move. I can walk inside a building, put on a coat, or bring along a cup of hot coffee. The tree, however, just stands there day after day. So, I worry about that tree.

I worry because the tree cannot take action and do what is necessary to protect itself—from the cold, from a chainsaw, or from bark-eating beetles. I also worry about the environment that surrounds that tree. I am happy to see it supported by warm weather and a soft rain, while I fret when the wind blows hard and nutrients are scarce.

My desire and capacity to move are incredible assets. *Move* is the theme of this book. Indeed, the words motivation, emotion, and motive are all derived from the Latin verb *movere*, which means “to move.” This book is about all the forces that generate and sustain *movere*. It is a story about how the motivational and emotional assets we all possess help us move forward toward optimal functioning and greater well-being.

WHAT IS MOTIVATION? WHY IS IT IMPORTANT?

What is motivation? One reason to read this book is, of course, to find an answer to this question. But as a way of beginning the journey, pause for a moment and generate your own answer, however preliminary, however tentative, however personal and private. Perhaps scribble your definition on a notepad or in the margins of this book.

Later in the chapter, the book offers a formal definition for both motivation (page 8) and emotion (page 9). To get us started, however, consider a simple definition: Motivation is *wanting* (Baumeister, 2016). Motivation is a condition inside us that desires a change—a change in the self or a change in the environment. The appeal of this simple definition is that it identifies the active ingredient (i.e., wanting change) within any motivational state—I want to change my behavior, change my thoughts, change the way I feel, change my self-concept, change my surrounding environment, change the quality of my relationships, and so forth.

Why is motivation important? Why is it important to know and to understand what people want? While there are many reasons why motivation study is important and worthwhile, consider two key reasons.

First, learning about motivation is a very interesting thing to do. Few topics spark and entertain the imagination so well. Anything that tells us about what we want and desire, why we want what we want, and how we can improve our lives is going to be interesting. And anything that tells us about what other people want, why they want what they want, and how we can improve their lives is going to be interesting. To give us these insights, we can turn to theories of motivation to learn about topics such as human nature, goal setting, strivings for achievement and power, desires for biological sex and psychological intimacy, and emotions like fear, anger, and compassion. These theories explain how to boost engagement, change behavior, develop talent, be creative, grow interests, develop competencies, and set goals and make plans.

Second, learning about motivation is a valuable, useful, and deeply worthwhile thing to do. Learning about motivation can be an extremely practical and worthwhile undertaking. It can be quite useful to know where motivation comes from, why it sometimes changes and why it other times does not, under what conditions it increases or decreases, what aspects of motivation can and cannot be changed, and whether some types of motivation are more beneficial than are other types. Knowing such things, we can apply our knowledge to situations such as trying to motivate employees, coach athletes, counsel clients, raise children, engage students, or change our own ways of thinking, feeling, and behaving. Understanding motivation and emotion offers a reliable pathway to gain valued outcomes, such as greater effort, improved performance, a sense of purpose, personal growth, and enhanced well-being. To the extent that a study of motivation and emotion can tell us how we can improve our lives and the lives of others, the journey will be time well spent.

Studying motivation and emotion is an opportunity to gain both theoretical understanding and practical know-how. As a case in point, consider exercise. Think about it for a moment: Why would anyone *want* to exercise? Can you explain this? Can you explain where the motivation to exercise comes from? Do you understand why people might be more willing to exercise under some conditions yet less willing to do so under other conditions? Can you explain why one person might be more willing to exercise than another? Can you explain why the same person sometimes wants to exercise but other times does not want to exercise? To help answer such questions, 13 different motivation-based reasons to exercise appear in Table 1.1. For some reasons, the person just exercises spontaneously (e.g., good mood). For other reasons, the motivation has more purpose to it (e.g., health benefits). And for still other reasons, the motivation reflects something unique about the person (e.g., pursuit of a standard of excellence).

And we need to consider not only the motivation to exercise (approach) but also the motivation not to exercise (avoidance). What if exercising makes us feel anxious or stressed? What if exercise makes us feel incompetent and embarrassed? What if we feel tired, or what if we just do not feel like putting forth all that effort? What if time spent exercising takes us away from other things we like to do, such as watching television, reading a book, or logging on to Facebook?

And there are of course many different ways to exercise, assuming one actually has sufficient motivation to do so. So, we need to ask: Why run laps around a track? Why jump up and down during an aerobics class? Why climb stairs on a machine that does not really go anywhere? Or, why pass by the elevator or escalator to walk up seven flights of stairs? Why run when you know your lungs will collapse for want of air? Why jump and stretch when you know your muscles will rip

Table 1.1 Thirteen Different Motivational Reasons to Exercise

| Why Exercise? | Motivation | Illustration |
|-------------------------------------|------------------------------|---|
| Fun, enjoyment | Intrinsic motivation | Children exercise spontaneously—they run and jump and chase, and they do so simply for the sheer fun of it. |
| Personal challenge | Flow | Athletes get “in the zone” when their sport optimally challenges their skills. |
| Forced to do so | External regulation | Athletes exercise because their coach tells them to do so. |
| Accomplish a goal | Goal | Runners strive to run a mile in six minutes or less. |
| Health benefits | Value | People exercise to lose weight or to strengthen the heart. |
| Inspiration | Possible self | People watch others exercise and become inspired to do the same. |
| Pursuit of a standard of excellence | Achievement strivings | Snow skiers race to the bottom of the mountain trying to beat their previous best time. |
| Satisfaction from a job well done | Competence | As exercisers make progress, they feel more competent, more effective. |
| An emotional kick | Opponent process | Vigorous jogging can produce a runner’s high (a euphoric rebound to the pain). |
| Good mood | Positive affect | Beautiful weather can induce a good mood such that people exercise spontaneously, as they skip along without even knowing why. |
| Alleviate guilt | Introjection | People exercise because they think that is what they should or ought to do to please others or to relieve their own sense of guilt. |
| Relieve stress, depression | Personal control | After a stressful day, people go to the gym, which they see as a structured and controllable environment. |
| Hang out with friends | Relatedness | Exercise is often a social event, a time to enjoy hanging out with friends. |

and tear? Why take an hour out of the day when you just do not feel like it or when your schedule simply will not allow it? Why exercise when life offers so many other interesting things to do? Why indeed?

These questions ask about exercise, but they could just as easily ask about the motivation underlying any activity. If you play the piano, why? If you are fluent in a second language, why did you go through all the effort to learn that foreign language? If you spent the afternoon working hard to learn something new or to develop a talent, then why?

MOTIVATIONAL SCIENCE

The study of motivation and emotion is a behavioral science. The term science signals that answers to motivational questions require objective, data-based, empirical evidence gained from well-conducted and peer-reviewed research findings. Motivational science does not accept quotes from famous basketball coaches as definitive answers, however inspirational and attention-getting those quotes may be. Instead, motivational science embraces empirical methods, as it emphasizes testable hypotheses, operational definitions of its constructs, observational methods, and objective statistical analyses to evaluate the scientific merit of its hypotheses. Such research seeks to construct theories about how motivational processes work.

The ongoing processes of putting one's ideas about motivation to empirical test is a crucial process to realizing the title of this book (i.e., *Understanding Motivation and Emotion*), because the motivational concepts one uses need to be chosen carefully, and they need to be continually evaluated against new findings. Inadequate concepts—as determined by a lack of supportive empirical evidence—are best tossed aside, useful concepts need to be improved upon, and new explanatory concepts need to be discovered.

A theory is an intellectual framework that organizes a vast amount of knowledge about a phenomenon so that the phenomenon can be better described, understood, and explained (Fiske, 2004). The study of motivation and emotion exists to answer the *Why?* questions of behavior, thought, and feeling, such as Why did she do that? and Why does she feel that way? To quote Bernard and Lac (2013, p. 574):

without an answer to why, we are left only with the description of behavior, and description without explanation is ultimately unsatisfying.

To understand the nature of something such as achievement motivation and to explain how it works, a theory of achievement motivation needs to do two things. First, it needs to identify the relations that exist among naturally occurring, observable phenomena. For instance, a theory needs to identify what causes the phenomenon and also what the phenomenon itself causes. A theory of achievement motivation, for instance, will identify variables such as optimal challenge, independent work, and rapid performance feedback as the naturally occurring causes for achievement strivings, and it will identify variables such as effort, persistence, and career choices (e.g., entrepreneurship) as its naturally occurring consequences. Second, it needs to explain why those relations exist. For instance, why does a challenge (e.g., Can you do this?) lead some people strive for achievement while it leads other people to experience only anxiety and avoidance? If you can identify the antecedents and consequences to a motivational or an emotional phenomenon, then your understanding will be clearer, more sophisticated, and more helpful. You will be well positioned (well informed) when it comes time to improve your life or the life of a loved one.

Figure 1.1 illustrates the function and utility of a good theory (Trope, 2004). A theory cuts through the complexity and noise of reality to represent how a phenomenon generally works (“Representation” in Figure 1.1). Once formed, theories generate predictions (i.e., hypotheses) about where a motivational state comes from, what it leads to (e.g., behavioral change), and how, when, and under what conditions it might change.

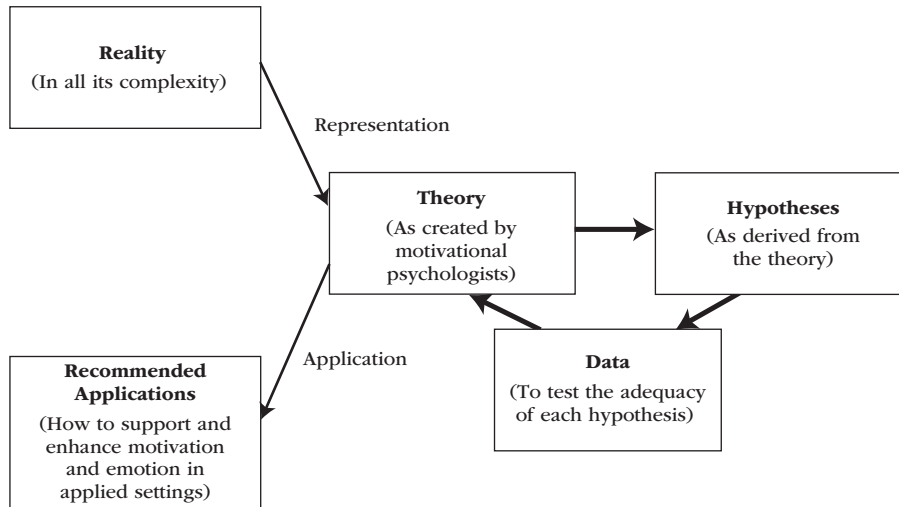


Figure 1.1 Illustration of a Theory

How a theory conceptualizes the phenomenon may or may not be correct or complete. So, researchers use the theory to generate testable hypotheses. A hypothesis is a prediction about what should happen if the theory is correct. For instance, one hypothesis about achievement motivation might be that people who set goals and receive rapid performance feedback (e.g., entrepreneurs) should experience greater achievement strivings at work than do people who have service-oriented jobs (e.g., nursing; Jenkins, 1987). With a hypothesis in hand, a research study is carried out to collect the data necessary to evaluate the accuracy of the hypothesis. If the findings support the theory's hypothesis, researchers then gain confidence in the validity of the theory.

If the findings fail to support the theory, however, researchers lose confidence in the theory and either revise it or go in search of a better theory (i.e., a better explanation).

After a theory has been sufficiently, rigorously, and objectively validated, it becomes useful. A validated theory serves as a practical tool to recommend applications that can improve people's lives ("Application" in Figure 1.1). A validated theory can inform interventions and applications in real-world settings. With a valid theory in hand, the motivation scientist can translate discovered knowledge into useful applications in schools, workplaces, and society and, therefore, promote in people more effective functioning and enhanced well-being.

Overall, by proposing and testing their theories, researchers develop a deep understanding of motivation and emotion (i.e., gain theoretical knowledge), and by refining and applying their theories, researchers develop workable solutions to life's motivational problems (i.e., gain practical know-how).

TWO PERENNIAL QUESTIONS

The study of motivation revolves around providing the best possible answers to two fundamental questions: (1) What causes behavior? and (2) Why does behavior vary in its intensity?

What Causes Behavior?

Motivation's first fundamental question is, What causes behavior? Or, stated in terms of a *Why?* question: Why did she do that? We see people behave, but we cannot see the underlying cause or causes that generated their behavior. We watch people show great effort and persistence

(or none at all), but the reasons why they show great effort remain unobserved. Motivation exists as a scientific field to identify those hidden causes of behavior.

It is helpful to expand this one general question into five specific questions:

- Why does behavior start?
- Once begun, why is behavior sustained over time?
- Why is behavior directed toward some goals yet away from others?
- Why does behavior change its direction?
- Why does behavior stop?

In the study of motivation, it is not enough to ask why a person practices a sport, why a child reads books, or why an adolescent refuses to sing in the choir. To gain a sophisticated understanding

BOX 1 Why We Do What We Do

Question: Why is this information important?

Answer: To gain the capacity to explain why people do what they do.

Explaining motivation—why people do what they do—is not easy. People have no shortage of possible motivation theories (“He did that because...”), but the problem is that many of these intuitive theories are not really helpful.

When I talk to people in everyday life, when I ask students about their own motivation theories during the first week of class, and when I read the advice people give online and during television talk shows, the most popular theories people embrace are:

- Self-esteem and praise
- Incentives and rewards

At the top of the list of people’s theories of motivation is “boost self-esteem.” The view on self-esteem sounds something like, “Find a way to make people feel good about themselves, and then good things will start to happen.” “Praise them, compliment them, and give them some affirmation that they are worthy as a person and that brighter days are ahead.” The problem with this strategy is that it is wrong. It is wrong because there is practically no empirical evidence to support it (Baumeister, Campbell, Krueger, & Vohs, 2003). Educational psychologists, for instance, routinely find that increases in students’ self-esteem do not produce subsequent increases in their academic achievement (Marsh & Craven, 2006). A former president of the American Psychological Association (APA) went so far as to conclude that “there are almost no findings that self-esteem causes anything at all” (Seligman, quoted in Azar, 1994, p. 4).

There is value in a healthy dose of self-esteem. The problem is that self-esteem is not a causal variable. Instead, it is an effect—a reflection of how our lives are going. It is a barometer of well-being. When life is going well, self-esteem rises; when life is going poorly, self-esteem falls. This is very different from saying that self-esteem *causes* life to go well. The logical flaw in thinking about self-esteem as a source of motivation is the act of putting the proverbial cart before the horse. Self-esteem is a cart, not a horse.

Next on people’s list of theories of motivation is “provide incentives and offer rewards.” This view sounds something like, “When people are unmotivated, offer them an incentive to get them going.” The problem with this strategy is twofold. First, incentives and rewards need to be given carefully, because removing them tends to damage the person’s preexisting motivation to engage in that same task without the promise of reward (Deci, Koestner, & Ryan, 1999). For instance, in school, do you only read the course textbook right before the exam? Have years and years of tests squashed your natural curiosity and early love of reading?

Second, if you think about it, the person offering the incentive actually ignores or bypasses an understanding of the person’s motivation and instead seeks only compliance. Instead of offering a reward to compensate for low motivation, wouldn’t it make a lot of sense if authors would just write a really interesting and “must read” textbook in the first place?

What we will do on each page of this book is look inside the person to identify those internal processes that energize, direct, and sustain behavior. When we do this, we will discover theories of motivation that are much more effective than the big two of “boost self-esteem” and “offer incentives.”

of why people do what they do, we must ask further why athletes begin to practice in the first place. What was the reason (or reasons) why this athlete or this group of athletes first started to participate in this particular sport? What energizes their effort hour after hour, day after day, season after season? Why do these athletes practice one particular sport rather than another? Why are they practicing now rather than, say, hanging out with their friends? When they do practice, why do these athletes quit for the day, or quit during their lifetimes? These same questions can be asked of children as they read books: Why begin? Why continue past the first page? Past the first chapter? Why pick that particular book? Why stop reading? Will their reading continue in the years to come?

For a more personal example, let me ask, Why did you begin to read this book today? Will you continue reading to the end of this chapter? Will you continue reading until the end of the book? If you do stop before the end, then why will you stop? After reading, what will you do next? Why? The discussion in Box 1 expands on the quest to explain why we do what we do.

Why Does Behavior Vary in Its Intensity?

Motivation's second fundamental question is, Why does behavior vary in its intensity? Other ways of asking this same question would be to ask, Why is desire strong and resilient at one time yet weak and fragile at another time? and Why does the same person choose to do different things at different times?

Behavior varies in its intensity, and its intensity varies both within the individual and among different individuals. The idea that motivation can vary within the individual means that a person can be actively engaged at one time, yet that same person can be passive and listless at another time. The idea that motivation can vary among individuals means that, even in the same situation, some people can be actively engaged while others are passive and listless.

Within the individual, motivation varies. When motivation varies, behavior also varies. Some days an employee works rapidly and diligently; other days the work is lethargic. One day a student shows enthusiasm and strives for excellence; yet the next day, the same student is listless, does only the minimal amount of work, and avoids being challenged academically. Why the same person shows strong and persistent motivation at one time yet weak and unenthusiastic motivation at another time needs to be explained. Why does the worker perform so well on Monday but not so well on Tuesday? Why do children say they are not hungry in the morning, yet the same children complain of urgent hunger in the afternoon? So the second essential problem in a motivational analysis of behavior is to understand why a person's behavior varies in its intensity from one moment to the next, from one day to the next, and from one year to the next.

Among different people, motivation varies. We all share many of the same basic motivations and emotions (e.g., hunger, anger), but people do clearly differ in what motivates them. Some motives are relatively strong for one person yet relatively weak for another. Why is one person a sensation seeker, who continually seeks out strong sources of stimulation such as riding a motorcycle, whereas another person is a sensation avoider, who finds such strong stimulation more of an irritant than a source of excitement? In a contest, why do some people strive diligently to win, whereas others care little about winning and strive more to make friends? Some people seem so easy to anger, whereas others rarely get upset. For those motives in which wide individual differences exist, motivation study investigates how such differences arise (antecedents) and what implications they hold (consequences). So another motivational problem to solve is to recognize that individuals differ in what motivates them and to explain why this is so.

SUBJECT MATTER

To explain why people do what they do, we need to explain what gives behavior its energy, direction, and endurance. It is some motive that energizes the athlete, it is some motive that directs the student's

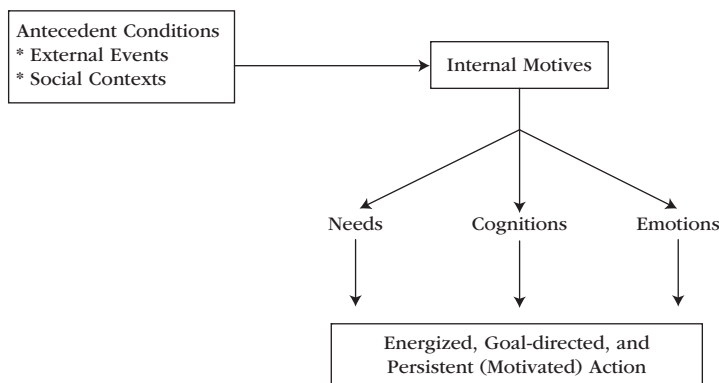


Figure 1.2 Three Categories of Internal Motives

behavior toward one goal rather than another, and it is some motive that keeps the artist painting month after month after month. *The study of motivation concerns those internal processes that give behavior its energy, direction, and persistence.* *Energy* implies that behavior has strength—that it is relatively strong, intense, and hardy or resilient. *Direction* implies that behavior has purpose—that it is aimed or guided toward some particular goal or outcome. *Persistence* implies that behavior has endurance—that it sustains itself over time and across different situations.

As shown in Figure 1.2, motives are internal experiences—needs, cognitions, and emotions. They are the direct and proximal causes of motivated action. External events and social contexts are important too, because they act as antecedents to motives. Using a movie metaphor, internal motives are the stars while external events are the supporting characters.

Internal Motives

A motive is an internal process that energizes, directs, and sustains behavior. It is therefore a general term to identify the common ground shared by needs, cognitions, and emotions. The difference between a general motive versus a specific need, cognition, or emotion is simply the level of analysis. Needs, cognitions, and emotions are just three specific types of motives (see Figure 1.2).

Needs

Needs are conditions within the individual that are essential and necessary for the maintenance of life and for the nurturance of growth and well-being. Hunger and thirst exemplify two biological needs that arise from the body's requirement for food and water. These are required nutriments for the maintenance of life. Competence and belongingness exemplify two psychological needs that arise from the self's requirement for environmental mastery and warm interpersonal relationships. These are required nutriments for growth and well-being. Needs serve the organism, and they do so by (1) generating wants, desires, and strivings that motivate whatever behaviors are necessary for the maintenance of life and the promotion of growth and well-being and (2) generating a deep sense of need satisfaction from doing so. Part I discusses specific types of needs: physiological (Chapter 4), psychological (Chapter 6), and implicit (Chapter 7).

Cognitions

Cognitions refer to mental events, such as thoughts, beliefs, expectations, plans, goals, strategies, appraisals, attributions, and the self-concept. Cognitive sources of motivation involve the person's ways of thinking. For instance, as students, athletes, or salespersons engage in a task, they have

in mind some plan or goal, they harbor expectations that they will cope well, they have ways of appraising or interpreting what is happening around them, and they have an understanding of who they are striving to become. Part II discusses specific cognitive sources of motivation: plans and goals (Chapter 8), mindsets (Chapter 9), beliefs and expectations (Chapter 10), and the self (Chapter 11).

Emotions

Emotions are complex but coordinated feeling-arousal–purposive–expressive reactions to the significant events in our lives (e.g., an opportunity, a threat, a loss; Izard, 1993). Emotions generate brief, attention-getting bursts of emergency-like adaptive behavior. That is, given a significant life event, emotions rapidly and rather automatically generate and synchronize four interrelated aspects of experience into a unified whole:

- *Feelings*: Subjective, verbal descriptions of emotional experience.
- *Arousal*: Bodily mobilization to cope with situational demands.
- *Purpose*: Motivational urge to accomplish something specific at that moment.
- *Expression*: Nonverbal communication of our emotional experience to others.

By generating and synchronizing these four aspects of experience into a coherent whole, emotions allow us to react adaptively to the important events in our lives, such as life’s challenges to our survival and well-being. For instance, upon encountering a threatening event, we rapidly and rather automatically feel afraid, our heart rate increases, an urge to escape arises, and the corners of our lips are drawn backward in such a way that others can recognize and respond to our fear experience. Other emotions, such as anger and joy, show a similar coherent pattern that organizes our feelings, arousal, function, and expression in ways that allow us to prepare for and to cope successfully with a different set of circumstances. Part III discusses the nature of emotion (Chapter 12), its different aspects (Chapter 13), and individual emotions (Chapter 14).

Emotions as Motivational States

In thinking about the subject matter of motivation and emotion, the reader might be a bit perplexed that emotions are conceived here as motivational states—that is, emotions are a subset of motivation. Emotions certainly can be studied on their own. But emotions do clearly also serve an adaptive role for individuals (Keltner & Haidt, 1999; Zeelenberg, Nelissen, Breugelmans, & Pieters, 2008). Each emotion featured in this book serves a distinct motivational function (e.g., fear from a potential threat motivates the person to escape and to search for a safe place). That is, people have three major mechanisms to generate adaptive motivational states—needs, cognitions, and emotions, and these three types of internal motives serve as the core subject matter of contemporary motivation study.

External Events and Social Contexts

External events are environmental, social, and cultural offerings that affect a person’s internal motives. Environmental events include specific attractive stimuli such as money and events such as being praised. Environmental events can also be unattractive stimuli such as a foul odor or being yelled at. Social contexts include general situations, such as a classroom or workplace climate, a parenting style, or the culture at large.

It is tempting to think that external events are themselves direct sources of motivation. For instance, if someone says, “I’ll give you \$20 if you touch your nose,” then it seems rather obvious that the \$20 bill is directly responsible for your sudden urge to touch your nose. But the motivational power of incentives and rewards (\$20) is actually traceable to the dopamine discharge that occurs

in your subcortical brain when you expect the delivery of a valued reward (Schultz, Tremblay, & Hollerman, 2000), as will be explained in Chapter 3. So, it is actually the dopamine discharge and the cognitive expectation of a forthcoming benefit (*internal* processes), not the extrinsic reward itself, that energizes, directs, and sustains behavior (nose touching). That is, if the dopamine discharge did not occur, then energetic goal-directed behavior would not occur whenever such a \$20 offer came our way. Precisely how environmental events and social or cultural contexts add to and inform a motivational analysis of behavior will be explained in Chapter 5.

Motivation versus Influence

One reason to read a book on motivation might be to learn the techniques necessary to get other people to do what you want them to do. For instance, parents might want to know how to get children to clean their room, and workplace managers might want tips in how to persuade employees to make more sales. In these examples, what people want is not motivation *per se* but, rather, influence.

Influence is the social process in which one requests that the other change his or her behavior or thought (attitude, opinion) (Hogg, 2010). This interpersonal process occurs under various names such as persuasion, compliance, conformity, obedience, and leadership. Motivation, however, is a private, internal process. What motivation does is endow the person with the energy and direction needed to engage in and to cope with the environment in an open-ended, adaptive, problem-solving sort of way.

When you motivate someone, you energize and direct their behavior, engagement, and coping. People are motivated when their behavior is strong, purposive, and resilient. When you influence people, you get them to do what you want them to do. The study of motivation is, therefore, not about manipulating people; rather, it is about understanding the conditions under which people can energize and direct (i.e., motivate) their own behavior—and then offering those conditions in a supportive way (Deci, 1995).

EXPRESSIONS OF MOTIVATION

Watch someone for a few minutes, and then ask yourself if this person is motivated or not. If so, then ask yourself what types of motivation the person has. For instance, as you watch two people—say, two teenagers playing a tennis match—how do you know that one person is more motivated than the other? How do you know whether the two players have the same type of motivation, or two different types of motivation?

Motivation is a private and unobservable (internal) experience. You cannot see another person's motivation. That is, as you walk down the street, you cannot look at the passersby and actually see their thirst, the goals they strive for, or extent of their achievement motivation. Instead, we observe what is public and measurable to infer such motivations.

Below are the five telltale ways that you can know (or measure) motivation when you see it—behavior, engagement, psychophysiology, brain activations, and self-report.

Behavior

Seven aspects of behavior express the presence, intensity, and quality of motivation (Atkinson & Birch, 1970, 1978; Bolles, 1975; Ekman & Friesen, 1975): effort, persistence, latency, choice, probability of response, facial expressions, and bodily gestures. These aspects of behavior are listed and defined in Table 1.2. When behavior shows intense effort, long persistence, short latency, high probability of occurrence, facial or gestural expressiveness or when the individual pursues one specific goal-object in lieu of another, such is the evidence to infer the presence of a relatively intense motive. When behavior shows lackadaisical effort, fragile persistence, long latency, low probability

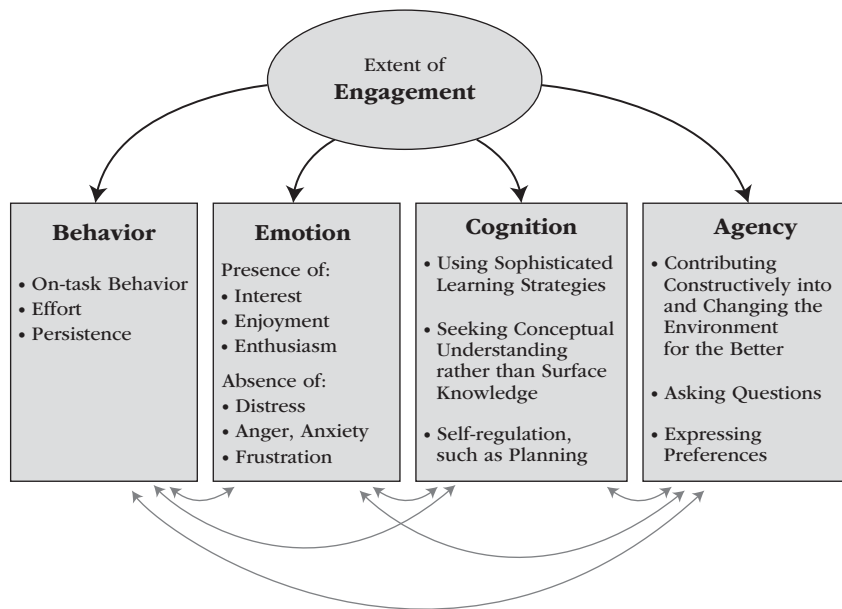
Table 1.2 Seven Behavioral Expressions of Motivation and Emotion

| | |
|-------------------------|--|
| Effort | Exertion put forth during a task. Percentage of total capacity used. |
| Persistence | Time between when a behavior first starts until it ends. |
| Latency | Duration of time a person waits to get started on a task upon first being given an opportunity to do so. |
| Choice | When presented with two or more courses of action, preferring one course of action over the other. |
| Probability of response | Number (or percentage) of occasions that the person enacts a particular goal-directed response given the total number of opportunities to do so. |
| Facial expressions | Facial movements, such as wrinkling the nose, raising the upper lip, and lowering the brow (e.g., a disgusted facial expression). |
| Bodily gestures | Bodily gestures, such as leaning forward, changing posture, and intentionally moving the legs, arms, and hands (e.g., a clenched fist). |

of occurrence, minimal facial and gestural expressiveness, or when the individual pursues an alternative goal-object, such is the evidence to infer an absence of a motive or at least a relatively weak one.

Engagement

Engagement refers to how actively involved a person is in a task (Christenson, Reschly, & Wylie, 2012). As shown in Figure 1.3, engagement is a multidimensional construct that consists of the four distinct, yet intercorrelated and mutually supportive, aspects of behavior, emotion, cognition, and agency (Christenson, Reschly, & Wylie, 2012; Fredricks, Blumenfeld, & Paris, 2004; Reeve, 2013; Skinner, Kindermann, Connell, & Wellborn, 2009). Behavioral engagement refers to how effortfully involved a person is during the activity in terms of effort and persistence, and it is synonymous with

**Figure 1.3** Four Interrelated Aspects of Engagement

the behaviors listed in Table 1.2. Emotional engagement refers to the presence of positive emotions during task involvement, such as interest, and to the absence of negative emotions, such as anxiety. Cognitive engagement refers to how strategically the person attempts to process information and to learn in terms of employing sophisticated rather than superficial learning strategies. Agentic engagement refers to the extent of the person's proactive and constructive contribution into the flow of the activity in terms of asking questions, expressing preferences, and letting others know what one wants and needs. For one example, to infer the underlying motivation of the student who sits next to you during class, observe his or her effort and persistence (behavioral engagement), interest and enjoyment (emotional engagement), deep processing and strategic learning (cognitive engagement), and input and contribution into the flow of the class (agentic engagement). These are the reliable telltale signs of the presence, intensity, and quality of that person's underlying class-specific motivation.

Psychophysiology

As people engage in various activities, the nervous and endocrine systems manufacture and release various chemical substances (e.g., neurotransmitters, hormones) that provide the biological underpinnings of motivational and emotional states (Andreassi, 2007). The term *psychophysiology* refers to the process by which psychological states (motivation, emotion) produce downstream changes in one's physiology. Psychophysiology is the study of the interaction between bodily and mental states.

In the course of a public speech, for example, speakers manufacture and release into the bloodstream various hormones such as epinephrine (adrenaline) and cortisol, and these hormonal changes produce changes throughout the body (e.g., increased heart rate, blood pressure, respiration rate, and sweating) that can be picked up by blood tests, saliva tests, and various types of psychophysiological equipment. Using these measures, motivation researchers monitor a person's hormonal activity, heart rate, blood pressure, respiratory rate, pupil diameter, skin conductance, skeletal muscle activity, and other indicators of physiological functioning, as listed in Table 1.3, to infer the presence, intensity, and quality of underlying motivational and emotional states.

Brain Activations

Brain activations underlie every motivational and emotional state, as will be discussed in Chapter 3. When thirsty, the hypothalamus is active. When we feel disgust, the insular cortex is active. Because each motivation and emotion generates a different pattern of neural activity, researchers can use

Table 1.3 Five Psychophysiological Expressions of Motivation and Emotion

| | |
|-------------------------|---|
| Hormonal activity | Chemicals in saliva or blood, such as cortisol (stress) or catecholamines (fight-or-flight reaction). |
| Cardiovascular activity | Contraction and relaxation of the heart and blood vessels (as in response to an attractive incentive or a difficult/challenging task). |
| Ocular activity | Eye behavior—pupil size (extent of mental activity), eye blinks (changing cognitive states), and eye movements (reflective thought). |
| Electrodermal activity | Electrical changes on the surface of the skin (as in response to a significant or threatening event). |
| Skeletal activity | Activity of the musculature, as with facial expressions (specific emotion), bodily gestures, or shifting one's weight from side to side during a boring hallway conversation (desire to leave). |

very sophisticated equipment (e.g., EEG, or electroencephalograph) and machinery (e.g., fMRI, or functional magnetic resonance imaging) to detect, monitor, and measure brain-based neural activity. Thus, by observing a rise in hypothalamic or insular activity, researchers can infer that the person is experiencing a rise in thirst or disgust, respectively. In this sense, changes in brain activations are just like changes in behavior, engagement, and psychophysiology, as they mark the rise and fall and maintenance of motivational states.

Self-Report

A fifth and final way to collect the data needed to infer the presence, intensity, and quality of motivation is simply to ask. People can typically self-report their motivation, as in an interview or on a questionnaire. An interviewer might assess anxiety, for instance, by asking how anxious the interviewee feels in particular settings or by asking the interviewee to report anxiety-related symptoms, such as an upset stomach or thoughts of failure. Questionnaires (paper-and-pencil, online) also have several advantages. They are easy to administer, can be given to many people simultaneously, and can target very specific information (Carlsmith, Ellsworth, & Aronson, 1976). But questionnaires also have pitfalls that raise a red flag of caution as to their usefulness. Many researchers lament the lack of correspondence between what people say they do and what they actually do (Quattrone, 1985). Furthermore, there is also a lack of correspondence between how people say they feel and what their psychophysiology indicates that they probably feel (e.g., “Oh, I’m not tired, I’m not hungry, I’m not afraid.”). Hence, what people say their motives are sometimes are not what people’s behavior, engagement, psychophysiology, and brain activations suggest their motives are. What conclusion, for instance, can one draw when a person verbally reports low anger but shows a quick latency to aggress, a rapid acceleration in heart rate, and eyebrows that are drawn tightly downward and together?

Because of such discrepancies, motivation and emotion researchers typically trust and rely on behavioral, engagement, psychophysiological, and brain-based measures of motivation and emotion to a greater degree than they trust and rely on self-report measures. Self-reports can be useful and informative, but they always need to be backed up and verified by the person’s behavior, engagement, psychophysiology, and brain activity.

FRAMEWORK TO UNDERSTAND MOTIVATION AND EMOTION

One way to integrate the perennial questions, subject matter, and expressions of motivation is summarized in Figure 1.4. Antecedent conditions affect the person’s underlying motive status, and the rise and fall of the person’s motive status (needs, cognitions, and emotions) expresses itself through a

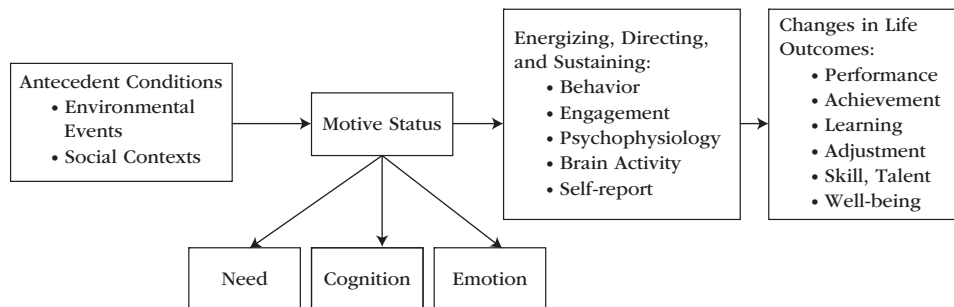


Figure 1.4 Framework to Understand Motivation and Emotion

pattern of behavioral, engagement, psychophysiological, neural, and subjective (self-report) activity that can then be expected to contribute positively to important life outcomes.

The summary framework (Figure 1.4) illustrates how motivational psychologists answer their perennial questions. That is, the model explains what causes motivation and emotion (antecedent conditions), illustrates the subject matter of motivation study (needs, cognitions, and emotions), articulates how motives express themselves (behavior, engagement, psychophysiology, brain activations, self-report), and explains why the study of motivation and emotion is so important to people's lives (it contributes positively to important life outcomes).

TEN UNIFYING THEMES

The scientific study of motivation and emotion includes a wide range of assumptions, hypotheses, theories, findings, and domains of application. All of this information can be a bit overwhelming at first. Fortunately, 10 unifying themes can be identified to bring all this information together in a sensible and cohesive way. Those 10 unifying themes are as follows:

- Motivation and emotion benefit adaptation and functioning.
- Motivation and emotion direct attention.
- Motivation and emotion are “intervening variables.”
- Motives vary over time and influence the ongoing stream of behavior.
- Types of motivations exist.
- We are not always consciously aware of the motivational basis of our behavior.
- Motivation study reveals what people want.
- To flourish, motivation needs supportive conditions.
- When trying to motivate others, what is easy to do is rarely what works.
- There is nothing so practical as a good theory.

Motivation and Emotion Benefit Adaptation and Functioning

Circumstances constantly change, as do the environments we live in (at home, school, work). Demands on our time rise and fall, opportunities come and go, threats emerge, and previously supportive relationships turn sour. When faced with a constantly changing stream of opportunities and threats, people need the means to take corrective action. Motivations and emotions serve as the means for such corrective action.

Motivation and emotion change in response to changes in the environment, and this capacity to change allows people to function as *complex adaptive systems*. For instance, when others treat us unfairly, we often get angry and that anger motivates corrective action to do what it takes to counter the exploitation. Or when a stranger goes out of her way to help us when we really need it, we feel gratitude and that warm glow motivates corrective action to develop a new friendship. Take away the corrective motivational and emotional states, and people would quickly lose a vital resource to adapt, function productively, and maintain well-being.

When motivation depletes, personal adaptation, functioning, and well-being all suffer. People who feel helpless in exerting control over their fates tend to give up quickly when challenged (Peterson, Maier, & Seligman, 1993). Helplessness sours the person's capacity to cope with life's challenges. Similarly, people who are bossed around and controlled coercively by others tend to become emotionally flat and numb to their own inner motivational resources (Deci, 1995).

In contrast, when students are excited about school, when workers are confident in their skills, and when athletes set high goals, then their teachers, supervisors, and coaches can rest assured that each of these people is on course to adapt successfully, function optimally, and basically be well. The conclusion is that people with high-quality motivation and emotion generally adapt and thrive, while people with motivational and emotional deficits generally flounder and suffer.

Motivation and Emotion Direct Attention

Environments demand our attention, and they do so in a multitude of ways. Just driving down the road, for instance, we have many things to do—find our destination, avoid hitting other cars, listen and respond to our passengers’ conversation, avoid spilling our coffee, and so forth. Similarly, a college student must simultaneously make good grades, maintain old friendships, eat healthy, balance budgets of money and time, plan for the future, wash clothes, develop artistic talents, keep abreast of world news, and so on. Who is to say whether our attention is allocated in one direction or the other? Much of that “say” comes from our motivational and emotional states. Environmental events and the motivations and emotions they generate have a way of gaining, and even demanding, our attention so that we attend to one aspect of the environment rather than to another (Smith, Cacioppo, Larsen, & Chartrand, 2003).

Motives prepare us for action by directing attention to select some behaviors and courses of action over others, as illustrated in Table 1.4. The table’s four columns list, from left to right, (1) various aspects of the environment that may need attending to or not, (2) a motive typically activated by that environmental event, (3) a motive-appropriate course of adaptive action, and (4) a hypothetical priority given to each course of action as determined by the intensity of its associated motive.

While six courses of action are possible, attention is not allocated equally and this is so for two reasons. First, because the aroused motives vary in strength (as denoted by the number of asterisks in the far-right column), some motivational states are more attention-getting than are others. Second, negative stimuli and environmental events are more attention-getting than are positive stimuli and environmental events (Smith et al., 2003). Hence, because interest, thirst, and rest are not urgent at that particular time (one asterisk), their salience is low and they fail to grab attention and prepare motive-congruent action. The motive to avoid a headache’s pain is highly salient (five asterisks and a negative stimulus) and therefore pain avoidance is a strong candidate to grab attention and channel behavior toward taking an aspirin. Like many motives, pain has an intrinsic ability to grab, hold, and direct our attention (Eccleston & Crombez, 1999). Motives, therefore, capture attention, interrupt what we are doing, take us away from doing other things, prepare us for motive-congruent action, and impose a motive-congruent priority onto our thinking, feeling, and behaving.

Table 1.4 How Motives Influence Behavior for a Student Sitting at a Desk

| Environmental Event | Aroused Motive | Motive-Relevant Course of Action | Motive’s Urgency Attention-Getting Status |
|----------------------|----------------|----------------------------------|---|
| Book | Interest | Read chapter | * |
| Cola | Thirst | Drink beverage | * |
| Familiar voices | Affiliation | Talk with friends | *** |
| Headache | Pain avoidance | Take aspirin | ***** |
| Lack of sleep | Rest | Lie down, nap | * |
| Upcoming competition | Achievement | Practice skill | ** |

Note: The number of asterisks in column four communicates the intensity of the environmentally activated motive. One asterisk denotes the lowest intensity level, while five asterisks denote the highest.

Motivation and Emotion Are “Intervening Variables”

Motivational and emotional processes arise in response to environmental events and, once aroused, cause behavior and outcomes (as illustrated earlier in Figure 1.4). Motivation and emotion are therefore variables that intervene (or “mediate”) between these causes (antecedents) and effects (outcomes) to explain the *why* that underlies these cause–effect relations.

Figure 1.5 graphically illustrates what is meant by the claim that motivation and emotion are intervening variables. The left-hand side of Figure 1.5 shows the direct cause–effect relation between what happens in the environment (X) and how well we adapt and function (Z). For instance, you might travel to a new place and then respond with exploration and sightseeing. In the language of Figure 1.5, the new place causes your exploration (X → Z). What motivation and emotion researchers and practitioners do, however, is to ask why you behaved the way you did (i.e., why you explored the new surroundings). The right-hand side of Figure 1.5 presents a different way of thinking about cause–effect relations. Rather than directly effecting outcomes, antecedents cause changes in motivation and emotion (line “a”). And what changes in motivation and emotion do is produce changes in life outcomes (line “b”). For instance, if the new environment led you to experience interest, then that interest (not the new environment itself) is what led to the exploration. Had the new environment led you to experience a different motivation or emotion—say, fear or anxiety—then that anxiety would have led to a different way of behaving, such as doing what is safe and familiar. When the explanatory function of motivational and emotional states are considered, the X → Z direct effect disappears (hence, the line “c” changes from a solid line on the left-hand side of the figure to a dashed line “c’” on the right-hand side).

Motivational and emotional states “intervene” between environmental causes and life-outcome effects to explain why the antecedent affects the outcome. The result is that it is typically more profitable to offer a motivational and emotional explanation for behavior and life outcomes than it is to offer an environmental explanation.

Motives Vary Over Time and Contribute into the Ongoing Stream of Behavior

Motivation and emotion are dynamic processes—always changing, always rising and falling. It is helpful to think of motivation as a constantly flowing river of needs, cognitions, and emotions.

People always harbor a multitude of different motives at any one point in time. Typically, one motive is strongest and most situationally appropriate, while other motives are relatively subordinate (i.e., one motive dominates our attention, while others lie relatively dormant, as in Table 1.4). The strongest motive typically has the greatest influence on our behavior, but each subordinate motive can become dominant as circumstances change and as time passes and can therefore influence and contribute to the ongoing stream of behavior.

As an illustration, consider a typical study session in which a student sits at a desk with book in hand. Our scholar’s goal is to read the book, a relatively strong motive on this occasion because of an upcoming examination. The student reads for an hour, but during this time, curiosity becomes

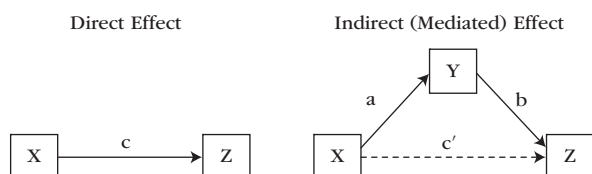


Figure 1.5 Motivation and Emotion as “Intervening Variables”

Note: X represents the antecedent cause, Z represents the life-outcome effect, and Y represents the intervening motivational or emotional state.

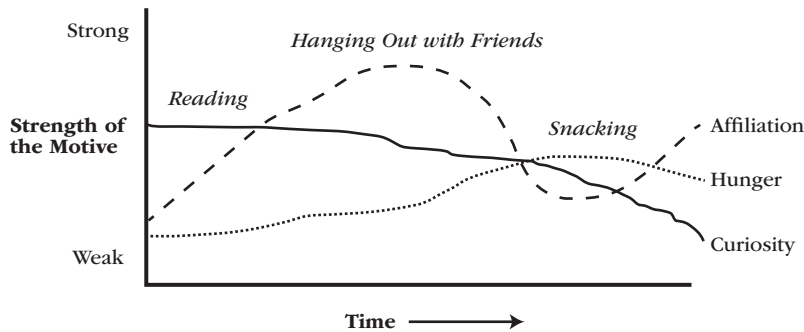


Figure 1.6 Stream of Behavior (in *Italics*) and the Changes over Time in Its Underlying Motives

satisfied, fatigue sets in, and various subordinate motives—such as hunger and affiliation—begin to increase in strength. Perhaps the smell of popcorn from a neighbor’s room makes its way down the hallway, or perhaps a text message from a friend increases the affiliation motive. If the affiliation motive increases in strength to a dominant level, then our scholar’s stream of behavior will shift from studying to affiliating.

An ongoing stream of behavior in which a person spends time reading, hanging out with friends, and snacking appears in Figure 1.6 (based on Atkinson, Bongort, & Price, 1977). The figure plots the rise and fall (changes) in the strength of each of the three motives that produce the observed stream of behavior (i.e., curiosity, affiliation, and hunger). Initially, curiosity is the dominant motive, while the affiliation and hunger motives are subordinate. Hence, the person reads. After some time passes, the affiliation motive increases in strength above curiosity (perhaps because of a friend’s text message). Hence, the behavior stream changes from reading to hanging out with friends. As more time passes, hunger gains relative dominance (perhaps because of the alluring smell of popcorn) and exerts its influence on the stream of behavior. The person spends some time snacking. Overall, Figure 1.6 illustrates that (a) motive strengths change over time; (b) people forever harbor a multitude of motives of various intensities, any one of which might grab attention and participate in the stream of behavior, given appropriate circumstances; and (c) motives are not something a person either does or does not have, but instead, they rise and fall as circumstances change.

Types of Motivations Exist

In many people’s minds, motivation is a unitary concept. Its key feature is its amount, and what matters about motivation is *How much?* The thinking is that more motivation is better than less motivation. Practitioners (teachers, parents, managers, coaches) therefore ask, “How can I increase motivation in my students, children, workers, or athletes?”

In contrast, motivation theorists emphasize that *types* of motivations exist (Elliot & Murayama, 2008; Ryan & Deci, 2017) and that human beings are motivationally complex (Vallerand, 1997). For instance, intrinsic motivation is different from extrinsic motivation (Ryan & Deci, 2017), and the motivation to approach is different from the motivation to avoid (Elliot, 1997). Similarly, emotion is not a unitary concept, because types of emotions exist (Izard, 1991). For instance, a person who is intensely angry behaves quite differently from a person who is intensely afraid or is intensely grateful. All three persons are highly emotional and “how much?” matters, but “which type?” (of emotion) is an equally important question to consider, because people who are angry behave very differently than do people who are afraid who, in turn, behave very differently from people who experience gratitude. So a complete motivational and emotional analysis answers both questions—*How much?* and *What type?*

Watch as an athlete practices, an employee works, and a doctor cares for a patient, and you will see variations in the intensity of their motivation and emotion. But it is equally important to ask why the athlete practices, why the employee works, and why the doctor provides care. Type of motivation and emotion is important because some types yield a higher quality of experience, more favorable performances, and psychologically healthier outcomes than do other types. For instance, students who learn out of an intrinsic motivation (via interest, curiosity) show more creativity and conceptual learning than do students who learn out of an extrinsic motivation (via stickers, deadlines; Ryan & Deci, 2017). In achievement situations, students whose goal is to approach success (“My goal is to make an A.”) outperform equally able students whose goal is to avoid failure (“My goal is to avoid making less than an A.”) (Elliot, 1999). When people diet, those with autonomous motivation tend to diet successfully because they eat healthier foods, whereas those with controlled motivation tend to diet unsuccessfully because they enact dysfunctional behaviors such as bingeing (Pelletier, Dion, Slovenic-D’Angelo, & Reid, 2004).

What this theme adds to an understanding of motivation and emotion is that different types of motivation exist and these different types have different antecedents (causes) and different consequences (outcomes). Instead of thinking of motivation as a single unitary phenomenon, it is more scientifically profitable to recognize that human beings have a complex and rather extended motivational repertoire that features many different types of motivations. Hence, a full understanding of the rich fabric of human motivation includes an appreciation for both growth-oriented, approach-based, and flourishing-related motivations and emotions (e.g., interest, curiosity, intrinsic motivation, hope, joy, gratitude, goals, growth mindsets, achievement motivation, sensation-seeking, self-actualization, and so on) as well as defense-oriented, avoidance-based, and suffering-related tendencies (e.g., pain, distress, fear, dissonance, anxiety, tension, pressure, frustration, perfectionism, depression, helplessness, stress, insecurity, and so on) (Bartholomew et al., 2011; Carver, 2006; Elliot, 2006; Vansteenkiste & Ryan, 2013).

We Are Not Always Consciously Aware of the Motivational Basis of Our Behavior

Motives vary in how accessible they are to consciousness and to verbal report. Some motives originate in language structures and the cortical brain (e.g., goals) and are thus readily available to our conscious awareness (e.g., “I have a goal to sell three insurance policies today.”). For these motives, if you ask a person why he or she selected that particular goal, the person can confidently list the rational and logical reasons for doing so. Other motives, however, have their origins in nonlanguage structures and the subcortical brain and are therefore much less available to conscious awareness. Not many people, for instance, say they feel hungry because of low leptin in the bloodstream; not many people say they acted violently because it was so hot; and not many people say they seek power and social status because their parents imposed very high developmental standards on them during their childhood. These are the motives that originate in the unconscious subcortical brain rather than in the language-based cortical brain.

Many experimental findings can be offered to make the point that motives can and do originate in the unconscious. Consider that people who feel good after receiving an unexpected gift are more likely to help a stranger in need than are people in neutral moods (Isen, 1987). People are more sociable on a sunny day than they are on a cloudy day (Kraut & Johnston, 1979). People commit more acts of violence in the summer months than at other times of the year (Anderson, 1989). Major league baseball pitchers, for instance, are more likely to intentionally hit batters on the opposing team when the temperature is hot rather than when the temperature is cold or moderate (Reifman, Larrick, & Fein, 1991). In each of these examples, the person is not consciously aware of why he or she committed the prosocial or antisocial act. Few people, for instance, would say they helped a stranger because of their mood, and fewer would say they committed murder or hurled baseballs at the heads of opponents because of the hot temperature. Still, these are conditions that

cause motivations. The brief lesson is that the motives, cravings, appetites, desires, moods, needs, and emotions that regulate human behavior are not always immediately obvious or consciously accessible. That is, we are not always consciously aware of the motivational basis of our behavior.

Motivation Study Reveals What People Want

The study of motivation and emotion reveals what people want and why they want it. It reveals what people need, and it reveals what makes people be happy. It literally reveals the contents of human nature.

The subject matter of motivation and emotion concerns what we all hope for, desire, want, need, and fear. It examines questions such as whether people are essentially good or evil, naturally active or passive, brotherly or aggressive, altruistic or selfish, free to choose or determined by biological and societal demands, and whether people harbor inherent developmental strivings to grow and self-actualize.

Theories of motivation reveal what is common within the strivings of all human beings by identifying the commonalities among people from different cultures, different life experiences, different ages, different historical periods, and different genetic endowments. All of us harbor physiological needs such as hunger, thirst, sex, and pain. All of us inherit biological dispositions such as temperament and neural circuits in the brain for reward and pleasure. We all share a number of basic emotions, and we all feel these emotions under the same conditions. We are all hedonists (approach pleasure, avoid pain), but we seem to want personal growth and optimal experience even more (Seligman & Csikszentmihalyi, 2000).

Theories of motivation also reveal those motivations and emotions that are learned through experience and are socially engineered through cultural forces (and hence outside the realm of human nature). For example, through our unique experiences, exposures to particular role models, and awareness of cultural expectations, we acquire different goals, values, expectations, aspirations, and views of self. These ways of energizing and directing our behavior originate not from inherited human nature but, rather, from internalized environmental, social, and cultural forces. The study of motivation therefore informs us what part of want and desire stem from human nature but also what part of want and desire stem from personal, social, and cultural learning. It reveals what part of motivation and emotion is universal and inherent versus what part is enculturated and acquired.

An even more careful study of motivation and emotion reveals that we do not so much have a single human nature as we have multiple human natures (Ryan, 2013). Part of our nature is to be inherently malevolent, selfish, passive, and tending toward the antisocial, while another part of our nature is to be benevolent, cooperative, active, and tending toward the prosocial. All of us have both natures. Whether we tend toward malevolence or benevolence depends significantly on how supportive versus thwartive are the social contexts and the interpersonal relationships that surround us. When the social environment is nurturing and when our interpersonal relationships are supportive, our benevolent nature arises and regulates our ongoing stream of behavior, but when the social environment is thwarting and when our interpersonal relationships neglect and frustrate us, our malevolent nature arises and regulates our ongoing stream of behavior. Because environments can be both benevolent and hostile, it helps to have a complex human nature to prepare us well for whatever comes our way.

To Flourish, Motivation Needs Supportive Conditions

A person's motivation cannot be separated from the social context in which it is embedded. That is, a child's motivation is affected by and somewhat dependent on the social context provided by his or her parents. The same could be said for the motivation of athletes affected by coaches, patients affected by physicians, and citizens affected by their culture. These environments can be nurturing

and supportive or they can be neglectful, frustrating, and undermining. Those who are surrounded by social contexts that support and nurture their needs and strivings show greater vitality, experience personal growth, and thrive more than those who are surrounded by social neglect, frustration, and abuse (Keyes, 2007; Ryan & Deci, 2000).

Recognizing the role that social contexts play in people's motivation and well-being, motivation researchers seek to apply principles of motivation in ways that allow people's motivation to flourish. Four areas of application are stressed in this book:

- Education
- Work
- Sports and exercise
- Therapy

In education, an understanding of motivation can be applied to promote students' classroom engagement, to foster the motivation to learn and develop talent, to support the desire to stay in school rather than drop out, and to inform teachers how to provide a motivationally supportive classroom climate.

In work, an understanding of motivation can be applied to improve worker productivity and satisfaction, to help employees set goals, to keep stress at bay, and to structure jobs so that they offer workers optimal levels of challenge, control, variety, and relatedness with their coworkers.

In sports, an understanding of motivation can be applied to identify the reasons youths participate in sports, to design exercise programs that promote lifelong physical activity, to provide coaching that develops skill and talent, and to understand how factors such as interpersonal competition, performance feedback, and goal setting effect performance.

In therapy, an understanding of motivation can be applied to improve mental and emotional well-being, to acquire effective emotion regulation strategies, to foster mature defense mechanisms, and to appreciate how the quality of our interpersonal relationships affect our motivation, emotion, and mental health.

When Trying to Motivate Others, What Is Easy to Do Is Rarely What Works

It is easy to come up with strategies and recommendations about how to motivate self and others. If someone asks you, "How can I motivate my employees to be more creative and to work harder?", I suspect that you can rather quickly offer a seemingly satisfying reply. The problem is that when people's commonsensical answers (e.g., "offer attractive incentives") are put to the objective empirical test, those proposed motivational strategies routinely fall short and prove themselves to be ineffective. They also sometimes create serious harm, such as damaging the very motivation the person sought to promote. If you study motivation and emotion long enough, you will come to two conclusions: (1) not all attempts to motivate others and the self are successful and (2) what is easy to do in practice is rarely what is most effective.

The general finding that "what is easy to do is rarely what is effective" leads motivation and emotion researchers to go back to the drawing board to do the tough work to create effective interventions and motivational supports. For instance, teachers tend to have much better success in motivating their students to read when they do the tough work to transform the lesson plan into activities that children find to be interesting, curiosity-provoking, and personally inspiring. Employers tend to have much better success in motivating their employees' creativity and hard work when they sit down, take the employees' perspective, and invite them to generate their own heartfelt, self-endorsed work goals. Parents tend to have more success encouraging their children to engage in socially constructive behaviors when they do the hard work to truly understand why their children do not want to be prosocial and when they take the time to explain to their children the otherwise hidden benefits of

engaging in such activities. And, everyone tends to have better success in motivating others when they stop uttering directives and commands and, instead, work patiently and diligently to see the situation from the other person's point of view, ask the other for input and suggestions, and then pull all that information together to offer some constructive goals and strategies. All of these approaches to motivate and engage others are somewhat difficult to do, but that is what the present book is for. If you will take a moment to glance through the book's final chapter (Chapter 17), you will find several rather sophisticated and highly successful interventions. It may take 16 more chapters to get to that final chapter on effective interventions, but we *will* get there.

There Is Nothing So Practical as a Good Theory

Consider how you might answer a motivational question such as, "What causes Joe to study so hard and for so long?" To generate an answer, you might begin with a commonsense analysis (e.g., "Joe studies so hard because he has high self-esteem."). Additionally, you might recall a similar instance from your personal experience when you studied very hard and then generalize that experience to this particular situation (e.g., "The last time I studied that hard, it was because I had a big test the next day."). A third strategy might be to find an expert on the topic and ask her (e.g., "My neighbor is a veteran teacher; I'll ask her why she thinks Joe might be studying so hard."). These are all fine and informative resources to answer motivational questions, but a truly golden resource is a good theory.

As introduced earlier in Figure 1.1, a theory is a set of variables (e.g., self-efficacy, goals, effort) and the relationships that are assumed to exist among those variables (e.g., strong self-efficacy beliefs encourage people to set goals, and once set, goals encourage high effort). Theories provide a conceptual framework for interpreting behavioral observations, and they function as intellectual bridges to link motivational questions and problems to satisfying answers, solutions, and applications. With a motivation theory in mind, the researcher approaches a question or problem along the lines of, "Well, *according to goal-setting theory*, the reason Joe studies so hard is because ..." As you read through the pages of each chapter and become familiar with each new theory of motivation and emotion, consider its usefulness in answering the motivational questions you care about most.

Table 1.5 introduces 33 motivation and emotion theories that appear in the chapters to come. The theories are listed here for two reasons. First, the list introduces the idea that the heart and soul of a motivational analysis of behavior is its theories. Instead of existing as dry and abstract playthings of scientists, a good theory is a practical, usable tool for solving the problems faced by students, teachers, workers, employers, managers, athletes, coaches, parents, therapists, and clients. To paraphrase Kurt Lewin, there is nothing so practical as a good theory. Theories are useful because they provide empirically validated (evidence-based) guidance in how to understand a phenomenon and how to solve a problem.

Second, the list of theories can serve as a means for monitoring your growing familiarity with contemporary motivation and emotion study. At the present time, you probably recognize very few of the theories listed in the table, but your familiarity will grow week by week. Months from now, you will feel more comfortable with these 33 different theories. If so, then you can be confident that you are developing a sophisticated and complete understanding of motivation and emotion. When you know motivation theories, you know motivation.

SUMMARY

Simply speaking, motivation is wanting. People who are motivated want change—in themselves or in the environment. The term "motivational science" means that answers to motivational questions require objective, data-based, empirical evidence gained from well-conducted and peer-reviewed research findings—findings that are used to develop, evaluate, refine, and apply theories of motivation and emotion.

Table 1.5 Thirty-three Theories in the Study of Motivation and Emotion
(with a Supportive Reference Citation)

| Motivation Theory | Supportive Reference Citation for Further Information |
|----------------------------|--|
| Achievement goals | Elliot (1997) |
| Arousal | Berlyne (1967) |
| Attribution | Weiner (1986) |
| Broaden-and-build | Fredrickson (2009) |
| Cognitive dissonance | Harmon-Jones and Mills (1999) |
| Cognitive evaluation | Deci and Ryan (1985a) |
| Differential emotions | Izard (1991) |
| Drive | Bolles (1975) |
| Dynamics of action | Atkinson and Birch (1978) |
| Effectance motivation | Harter (1981) |
| Ego depletion | Baumeister, Vohs, and Tice (2007) |
| Ego development | Loevinger (1976) |
| Emotion regulation | Gross (2002) |
| Expectancy \times Value | Eccles and Wigfield (2002) |
| Facial feedback hypothesis | Laird (1974) |
| Flow | Csikszentmihalyi (1990) |
| Goal setting | Locke and Latham (2002) |
| Implicit motives | Schultheiss and Brunstein (2010) |
| Interest | Hidi and Renninger (2006) |
| Learned helplessness | Peterson, Maier, and Seligman (1993) |
| Mindsets | Dweck (2006) |
| Motivation intensity | Brehm and Self (1989) |
| Opponent process | Solomon (1980) |
| Positive affect | Isen (1987) |
| Psychodynamics | Westen (1998) |
| Reactance | Wortman and Brehm (1975) |
| Self-actualization | Rogers (1959) |
| Self-concordance | Sheldon and Elliot (1999) |
| Self-determination | Ryan and Deci (2017) |
| Self-efficacy | Bandura (1997) |
| Sensation seeking | Zuckerman (1994) |
| Stress and coping | Lazarus (1991a) |
| Terror management | Greenberg, Solomon, and Pyszczynski (1997) |

The journey to understand motivation and emotion begins by asking the first perennial question, What causes behavior? This general question invites the more specific questions that constitute the core problems to be solved in motivation study: What starts behavior? How is behavior sustained over time? Why is behavior directed toward some ends but away from others? Why does behavior change its direction? Why does behavior stop? The second perennial question is to ask, Why does behavior vary from situation to situation, from one time to another time, and from person to person? Motivation and emotion exist as scientific disciplines to answer these questions.

Motivation's subject matter concerns those internal processes that give behavior its energy, direction, and persistence. Energy implies that behavior has strength—that it is relatively strong, intense, and hardy or resilient. Direction implies that behavior has purpose—that it is aimed toward achieving some particular goal or outcome. Persistence implies that behavior has endurance—that it continues over time and sustains itself across different situations. The three internal processes that

give behavior its strength, purpose, and resilience (i.e., its energy, direction, and persistence) are needs, cognitions, and emotions. Needs are conditions within the individual that are essential and necessary for the maintenance of life and for growth and well-being. Cognitions are mental events, such as beliefs, expectations, and the self-concept, that represent ways of thinking. Emotions are complex but coordinated feeling-arousal-purposeful-expressive reactions to significant life events, such as threats and challenges to our goals or well-being.

In its presence and in its intensity, motivation and emotion can be expressed in five ways: behavior, engagement, psychophysiology, brain activations, and self-report. Motivation and emotion express themselves publicly through behaviors such as effort, persistence, latency, choice, probability of response, facial expressions, and bodily gestures. Motivation and emotion also express themselves through acts of engagement, and specifically through behavior, emotion, cognition, and agency. Motivation and emotion further express themselves publicly through changes in psychophysiology such as changes in heart rate, blood pressure, respiratory rate, and the discharge of hormones such as epinephrine and cortisol. Motivation and emotion also express themselves through brain activations such as increased activity in particular regions of the cortical and subcortical brain. And motivation and emotion express themselves through self-reports, as people complete questionnaires or interviews that ask them specific questions about their subjective experience. In the study of motivation and emotion, self-reports can be useful and informative, but they also need to be backed up and verified by the person's behavior, engagement, psychophysiology, and brain activity.

Ten themes run throughout motivation and emotion study. These themes are as follows: (1) motivation and emotion benefit adaptation and functioning; (2) motivation and emotion direct attention; (3) motivation and emotion are "intervening variables"; (4) motives vary over time and influence the ongoing stream of behavior; (5) types of motivations exist; (6) we are not always consciously aware of the motivational basis of our behavior; (7) motivation study reveals what people want; (8) to flourish, motivation needs supportive conditions; (9) when trying to motivate others, what is easy to do is rarely what works; and (10) there is nothing so practical as a good theory. These 10 themes help organize and unify the otherwise diverse assumptions, hypotheses, perspectives, theories, findings, and applications within contemporary motivation and emotion study. One overall framework to illustrate how motivation is a coherent, interesting, and practical field of study appeared in Figure 1.4.

Motivation and Emotion in Historical Perspective

PHILOSOPHICAL ORIGINS OF MOTIVATIONAL CONCEPTS

GRAND THEORIES

- Will
- Instinct
- Drive
 - Freud's Drive Theory
 - Hull's Drive Theory
 - Decline of Drive Theory
 - Post-Drive Theory Years

RISE OF THE MINI-THEORIES

- Active Nature of the Person
- Cognitive Revolution
- Socially Relevant Questions

CONTEMPORARY ERA

- The 1990s Reemergence of Motivation Study

BRIEF HISTORY OF EMOTION STUDY

CONCLUSION

SUMMARY

READINGS FOR FURTHER STUDY

In the classic movie *Back to the Future*, Michael J. Fox drives a car that functions as a time machine capable of transporting him back to the 1950s. Imagine catching a ride in such a car to stop by the local university circa 1950s to see what the college motivation course looked like.

Besides the students' bobby socks and funny haircuts, one item to notice in this college course would be the lack of a textbook. The first comprehensive textbook in motivation was not written until 1964 (Cofer & Appley, 1964). Another item would be the syllabus. Featured topics on the mimeographed handout would be drive theory, reinforcement, homeostasis, conditioning, acquired drives, and emotion. You could search the syllabus all you wanted, but none of the really interesting contemporary topics would be included, such as intrinsic motivation, the self, mindsets, personal control beliefs, and positive psychology, and you would find nothing on the syllabus about how to apply motivation—nothing about motivation in the schools, sports psychology, work motivation, obesity and dieting, and so on. The course would, however, likely include psychoanalytic and

self-actualization concepts—a week on Freud, another week on Maslow. The course would probably feature a weekly laboratory assignment. Each student would be assigned a rat for the semester, and lab time would involve carrying out experiments such as testing the effects of 24 hours of food deprivation on the rat's running speed toward a goal box filled with either appetizing sunflower seeds or unappealing mush. Once the De Lorean time machine returned you to the present, you would probably agree that the study of motivation has changed even more than the haircuts and fashions.

PHILOSOPHICAL ORIGINS OF MOTIVATIONAL CONCEPTS

If technology could send you back 100 years, then you would not be able to find a motivation course at all. Courses in motivation (and the field of motivation itself) have not been around very long—less than 100 years.

The intellectual roots of contemporary motivation and emotion study owe their origin to the ancient Greeks—Socrates, Plato, and Aristotle. Plato (Socrates's student) proposed that motivation flowed from a tripartite, hierarchically arranged soul (or mind, psyche). At the most primitive (biological) level, the appetitive aspect contributed bodily appetites and desires, such as hunger and sex. At the social level, the competitive aspect contributed socially referenced standards, such as honor and shame. At the highest level, the calculating aspect contributed decision-making capacities, such as reason and choosing. These three aspects of the psyche motivated and explained different realms of behavior. Also, each higher aspect could regulate the motives of the lower aspects (e.g., reason could keep bodily appetites in check). Interestingly, Plato's portrayal of motivation anticipated Sigmund Freud's psychodynamics rather well (e.g., see Plato's Book IX, pp. 280–281): Roughly speaking, Plato's appetitive aspect corresponds to Freud's id, the competitive aspect to the superego, and the calculating aspect to the ego (Erdelyi, 1985).

Aristotle endorsed Plato's hierarchically organized, 3-part psyche (appetitive, competitive, and calculating), although he preferred different terminology (nutritive, sensitive, and rational). The nutritive aspect was the most impulsive, irrational, and animal-like. It contributed bodily urges necessary for the maintenance of life. The sensitive aspect was also bodily related, but it regulated hedonic pleasure and pain. The rational component was unique to human beings, because it was idea-related, intellectual, and featured the will. The will operated at the psyche's highest level because it utilized intention, choice, and that which was divine and immortal.

Hundreds of years later, the Greek's tripartite psyche was reduced to a dualism—the passions of the body and the reason of the mind. The two-part psyche retained the Greek's hierarchical nature because it made its chief distinction between what was irrational, impulsive, and biological (the body) versus what was rational, intelligent, and spiritual (the mind). The impetus for this reinterpretation rested mostly in the era's intellectual commitment to motivational dichotomies, such as passion versus reason, good versus evil, and animal nature versus human soul. Thomas Aquinas, for example, suggested that the body provided irrational pleasure-based motivational impulses, whereas the mind provided rational will-based motivations.

In the post-Renaissance era, René Descartes, a French philosopher, added to this mind-body dualism by distinguishing between the passive and active aspects of motivation. The body was a mechanical and motivationally passive agent, whereas the will was an immaterial and motivationally active agent. As a physical entity, the body responded to the environment in mechanistic ways through its senses, reflexes, and physiology. The mind, however, was a spiritual, thinking entity that possessed a purposive will. The mind could will the body and govern its desires.

This passive versus active distinction set the agenda for motivation study during the next 300 years. On the one hand, what was needed to understand the passive and reactive motives was a mechanistic analysis of the body. This need steered scholars to the biologically based study of anatomy and physiology. On the other hand, what was needed to understand the active and

purposive motives was an intellectual analysis of the will. This need steered scholars to the study of philosophy.

For Descartes, the ultimate motivational force was the will. Descartes reasoned that if he could understand the will, then he would understand motivation. The will initiated and directed action, and it chose whether to act and what to do when acting. Bodily needs, passions, pleasures, and pains created impulses to action, but these impulses only excited the will. The will was a faculty (a power) of the mind that controlled the bodily appetites and passions in the interests of virtue and salvation by exercising its power of choice. By assigning exclusive powers of motivation to the will, philosophers proposed the first grand theory of motivation.

GRAND THEORIES

The phrase “grand theory” is used here and throughout the chapter to connote an all-encompassing theory that seeks to explain the full range of motivated action—why we eat, drink, work, play, compete, fear certain things, read, fall in love, and everything else. The statement that “the will motivates all action” is a grand theory of motivation in the same way that “the love of money is the root of all evil” is a grand theory of evil. Both identify a single, all-encompassing cause that fully explains a phenomenon (all motivation, all evil).

Will

Descartes’s hope was that once he understood the will, then an understanding of motivation would inevitably unfold. Understanding motivation was reduced to, and became synonymous with, understanding the will. For this reason, a great deal of philosophical energy was invested in the effort.

Some progress was made as the acts of willing were identified to be choosing (i.e., deciding whether to act; Rand, 1964), striving (i.e., creating impulses to act; Ruckmick, 1936), resisting (i.e., resisting temptation; Mischel, 1974), and knowing the difference between self-initiated action and environmentally prompted reaction (Ricoeur, 1966). In the end, however, two centuries of philosophical analysis yielded disappointing results. The will turned out to be an ill-understood faculty of the mind that arose, somehow, out of a congeries of innate capacities, environmental sensations, life experiences, and reflections upon itself and its ideas. Furthermore, once the will emerged, it somehow became endowed with purpose. And it turned out that some people showed more willpower than did other people.

To make a long story short, philosophers found the will to be as mysterious and as difficult to explain as was the motivation it supposedly generated. Philosophers discovered neither the will’s nature nor the laws by which it operated. Essentially, philosophers painted themselves into the proverbial corner by multiplying, rather than reducing, the problem they were trying to solve. In using the will, philosophers now had to explain not only motivation but also the motivator—the will. As you can see, the problem only doubled. For this reason, those involved with the new science of psychology, which first emerged in the 1870s (Schultz & Schultz, 2011), found themselves in search of a less mysterious motivational principle. They found one not within the original intellectual home of philosophy but within the new intellectual home of physiology and biology—the instinct.

Instinct

Charles Darwin’s biological determinism had two major effects on scientific thinking. First, it provided biology with its most important idea (evolution). In doing so, biological determinism turned the mood of scientists away from mentalistic motivational concepts (e.g., will) and toward mechanistic and genetic ones. Second, Darwin’s biological determinism ended the man–animal dualism

that pervaded early motivation study. It introduced questions such as how animals use their resources (i.e., motivation) to adapt to the prevailing demands of an environment. The earlier philosophers had assumed that the will was a uniquely human mental power, one that necessitated that motivation study in humans be separate from motivation study in animals. Darwin reasoned that making this man–animal distinction was a mistake.

For Darwin, much of animal behavior seemed to be unlearned, automated, mechanistic, and inherited (Darwin, 1859, 1872). With or without experience, animals adapted to their prevailing environments: Birds built nests, hens brooded, dogs chased rabbits, and rabbits ran from dogs. To explain this apparently prewired adaptive behavior, Darwin proposed the instinct.

Crucially, Darwin's motivational concept could explain what the philosopher's will could not—namely, where the motivational force came from in the first place (Beach, 1955). Instincts arose from a physical substance, from the genetic endowment. This inherited and material substance (genes) led the animal to act in a specific way. Thus, the reason why birds build nests and dogs chase rabbits was because they had a genetically endowed, biologically aroused impulse to do so. Essentially, motivation thinkers in the 19th century stripped away the inanimate part of the philosopher's dualism (i.e., the rational soul) and kept the parts that remained, namely the biological and bodily urges, impulses, and appetites.

The first psychologist to pioneer an instinct theory of motivation was William James (1890). James borrowed heavily from the intellectual climate of Darwin and his contemporaries to endow human beings with a generous number of physical (e.g., sucking, locomotion) and mental (e.g., imitation, play, sociability) instincts. All that was needed to translate an instinct into an impulse for action was the presence of an appropriate stimulus. Cats chase mice, run from dogs, and flee from fire simply because they biologically must (i.e., because a mouse brings out the cat's instinct to chase, a dog brings out the instinct to flee, and the fire's flames bring out the instinct for self-preservation). The sight of a mouse (or dog or fire) rather mechanically and automatically activated in the cat a complex set of inherited, biologically endowed reflexes that generated impulses to purposive action (e.g., chasing, running).

Psychology's affection for, and commitment to, its second grand theory of motivation grew rapidly. A generation later McDougall (1908, 1926) proposed an instinct theory that featured instincts to explore, to fight, to mother offspring, and so on. McDougall regarded instincts as irrational, impulsive, and automatic motivational forces that oriented the person toward one particular goal. It was the instinct that “determines its possessor to perceive, and to pay attention to, objects of a certain class, to experience an emotional excitement of a particular quality upon perceiving such an object, and to act in regard to it in a particular manner, or, at least, to experience an impulse to such action” (McDougall, 1908, p. 30). Thus, instincts biased perception, generated emotionality, and elicited purposive behavior toward inherently desired goals.

In many respects, McDougall's instinct doctrine paralleled James's ideas. The greatest difference between the two was McDougall's rather extreme assertion that without instincts human beings would initiate no action. Without these “prime movers,” human beings would be inert lumps, bodies without any impulses to action. In other words, all of human motivation owed its origin to a collection of genetically endowed instincts (i.e., a grand theory of motivation).

Once researchers embraced the instinct as a grand theory of motivation, the next task became identifying how many instincts human beings possessed. Things quickly went out of control. The instinct doctrine became hopelessly speculative as different lists of instincts grew to include over 6,000 (Bernard, 1924; Dunlap, 1919). In the practice of compiling lists of instincts, intellectual promiscuity reigned: “If he goes with his fellows, it is the ‘herd instinct’ which activates him; if he walks alone, it is the ‘antisocial instinct’; if he twiddles his thumbs, it is the ‘thumb-twiddling instinct’; if he does not twiddle his thumbs, it is the ‘thumb-not-twiddling instinct’” (Holt, 1931, p. 428). The problem here is the tendency to confuse naming with explaining. Notice how the following sentence invokes (names) a motivational entity yet fails to actually explain the “why” underlying

the observed behavior: “People are aggressive because they have an instinct to fight.” This sentence sounds like an explanation when it is in fact vacuous.

In addition, the logic underlying instinct theory was exposed as circular (Kuo, 1921; Tolman, 1923). A circular explanation is one that attempts to explain an observation in terms of itself. Consider the aforementioned explanation of how the instinct to fight motivates acts of aggression. The only evidence that people possess an instinct to fight is that they sometimes behave aggressively. For the theorist, this is the worst kind of circularity: The cause explains the behavior (instinct → behavior), yet the behavior is used as evidence for its cause (behavior → instinct). What is lacking here is some independent way to determine if the instinct really exists. The key to escaping this circularity is to make new predictions, such as the following: If two very similar animals (i.e., animals that share the same instincts) were raised with different life experiences, then their instincts should lead them toward similar behaviors (despite their dissimilar personal histories). When researchers performed such experiments on the mothering instinct in rats (Birch, 1956) and the handedness (right-or left-handed) instinct in humans (Watson, 1924), the rats and humans acted in ways that reflected their unique life experiences, not their shared instincts.

Psychology’s affair with instinct theory began with wholehearted acceptance but ended with sweeping denial.¹ Just as psychology previously abandoned the will, it next abandoned the instinct. Once again, psychology found itself in search of a substitute motivational concept to explain behavior’s energetic and purposive nature.

Drive

The motivational concept that arose to replace instinct was drive (introduced by Woodworth, 1918). Drive arose from within an intellectual climate of a functional biology, one that understood that the function of behavior was to service bodily needs. As biological imbalances occurred (e.g., lack of food, water), animals psychologically experienced these bodily deficits as “drive.” Psychological drive emerged from biological deficit and then motivated whatever behavior was instrumental to servicing the body’s needs (e.g., eating, drinking). The two most widely embraced drive theories came from Freud (1915) and Hull (1943).

Freud’s Drive Theory

Freud, a physiologist and medical physician by training, believed that all behavior was motivated and that the purpose of behavior was to serve the satisfaction of biologically based bodily needs. His view was that biological urges (e.g., hunger) were constantly and inevitably recurring conditions in the body that produced energy buildups within the nervous system (Freud, 1915). While it tried to maintain a constant and low energy level, the nervous system was perpetually being displaced from this objective by the emergence, reemergence, and constant buildup of biological urges. Each energy buildup upset nervous system stability and produced psychological discomfort (i.e., anxiety). If the

¹Contemporary psychology no longer uses the instinct to explain complex human behavior. Nonetheless, the proposition that nonhuman animals show consistent, unlearned, stereotypical patterns of behavior is an undeniable observation. Bees build hexagonal cells, male stickleback fish attack red coloration, and birds build nests. Contemporary psychologists (but especially ethologists) concede that such stereotypical acts can be attributed to instincts in animals. As James wrote over a century ago, “that instincts . . . exist on an enormous scale in the animal kingdom needs no proof” (1890, p. 383). In using the term “instinct,” ethologists (Eibl-Eibesfeldt, 1989; Lorenz, 1965; Moltz, 1965) now speak of inherited neuronal structures that are unmodified by the environment during development. These inherited neuronal structures give rise not to general patterns of behavior but to particular bits of situationally specific behavior, referred to as “fixed action patterns.” Changing instinct’s focus from the cause of all complex behavior to only the cause of bits of behavior (fixed action patterns) proved to be a comfortable theoretical compromise. While theoretically expedient, such a compromise clearly shows the decline of a grand theory. Explaining bits of behavior or bits of motivation is just not the same as explaining all of behavior and all of motivation.

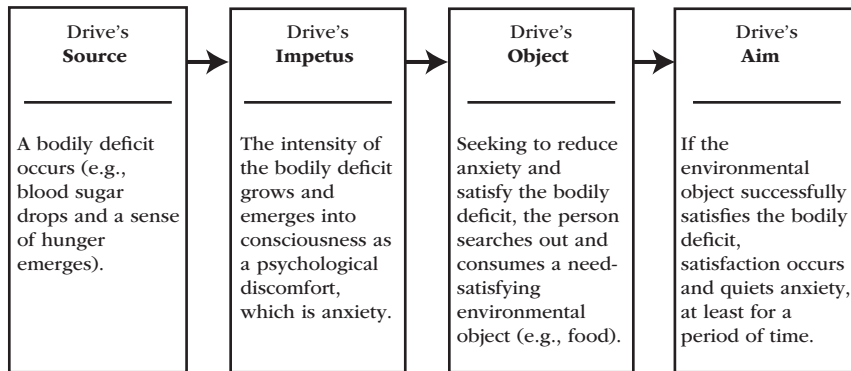


Figure 2.1 Freud's Drive Theory

energy buildup rose unchecked, it could threaten physical and psychological health. Drive therefore arose as a psychological emergency warning system that action needed to be taken. Once initiated, the motivated behavior continued until the drive was satisfied. In other words, behavior served bodily needs, and anxiety (drive) acted as a sort of middleman for ensuring that need-servicing behavior occurred as and when needed.²

Freud (1915) summarized his drive theory with four components—source, impetus, aim, and object—as depicted in Figure 2.1. The source of drive was rooted in the body's physiology—in a bodily deficit (e.g., lack of food, low blood sugar). Once it reached a threshold level of urgency, bodily deficit became psychological drive. Drive had motivational properties. It had an impetus (force) that possessed the aim of satisfaction, which was the removal of the underlying bodily deficit. To accomplish this aim, the individual experienced anxiety on a psychological level, and it was this anxiety that motivated the behavioral search for an object capable of removing the bodily deficit. Once the need-satisfying object was found, the subsequent satisfaction of the bodily deficit quieted drive/anxiety.

Hull's Drive Theory

Freud was a clinical psychotherapist who built his drive theory from case studies of disturbed individuals. Clark Hull, however, was an experimental psychologist who used modern scientific methods (e.g., random assignment to experimental conditions) to build his drive theory. For Hull (1943, 1952), drive was a pooled energy source composed of all current bodily deficits/disturbances. In other words, particular needs for food, water, sex, sleep, and so forth summed to constitute a total bodily need. For Hull, as for Freud, motivation (i.e., drive) had a purely physiological basis and bodily need was the ultimate source of motivation (i.e., a grand theory of motivation).

Hull's drive theory had one outstanding feature that no motivation theory before it had ever possessed—namely, high versus low motivation could be predicted and even experimentally manipulated before it occurred. With both the instinct and the will, it was impossible to predict when and whether a person would be motivated. But if an animal was deprived of food, water, sex, or sleep, however, then drive would inevitably increase in proportion to the duration of that deprivation. Drive was an increasing monotonic function of total bodily need, which itself was an increasing monotonic function of hours of deprivation.

²One way to understand Freud's view of nervous system energy (i.e., "libido") is through the analogy of a bathtub in which energy (like constantly flowing water) continues to rise and rise. As bodily drives continue to build up energy, the anxious urge to discharge that energy becomes increasingly urgent and expedient (or else the water would overflow). The higher the psychic energy rises, the greater the impulse to act. Adaptive behavior quieted the drive for a time, but the ever-constant buildup of nervous system energy would always return (i.e., the water's inflow never shuts off).

The fact that drive could be known from antecedent environmental conditions marked the beginning of a *scientific* study of motivation. This was so because if one knew which environmental conditions created motivation, then one could manipulate (and predict) motivational states in the laboratory. One could also explore the effects of the manipulated motivational state on a host of outcomes (e.g., performance, learning). These years were a very exciting time for motivation psychologists, and many believe that this era represented the “hey day” of motivation study.

Drive arose from a range of bodily disturbances, including food deprivation, water deprivation, mate deprivation, tissue damage (pain), air deprivation, temperature regulation, urination pressures, sleep deprivation, caloric burn from activity, nest building, and care for one’s young (Hull, 1943, pp. 59–60). Once it arose, drive “invigorated” behavior (Bolles, 1975). Although drive energized behavior, it did not direct it. Habit, not drive, directed behavior. As one contemporary phrased it, “Drive is an energizer, not a guide” (Hebb, 1955, p. 249). Behavior-guiding habits came from learning, and learning occurred as a consequence of reinforcement.

Hull’s research led him to argue that if a response was followed quickly by a reduction in drive, learning occurred and habit was reinforced. Any response that decreased drive (e.g., eating, drinking, or mating) produced reinforcement, and the animal learned which response produced drive reduction in that particular situation. To show how habit and drive (i.e., learning and motivation) produced behavior, Hull (1943) developed the following formula:

$${}_sE_r = {}_sH_r \times D$$

The variable ${}_sE_r$ is the strength of behavior (E stands for “excitatory potential”) in the presence of a particular stimulus. ${}_sH_r$ is habit strength (i.e., the probability that a particular drive-reducing response would occur in the presence of a particular stimulus).³ D is drive. The observable aspects of behavior—running, persisting, and so on—are denoted by ${}_sE_r$. The variables ${}_sH_r$ and D refer to behavior’s underlying, unobservable causes. The multiplication sign is important in that behavior occurred only when habit and drive were at nonzero levels. In other words, without drive ($D = 0$) or without habit ($H = 0$), there was no behavioral activity ($E = 0$).

One of Hull’s contemporaries, Neal Miller, summarized drive theory with his often-quoted phrase, “Drive, cue, response, reward,” which meant that drive energized action in the direction of a stimulus (cue) that, when attained (by response), reinforced (reward) that pattern of motivated action (i.e., thirst–water–drink–reinforcement).

Hull (1952) later extended his behavior system beyond $H \times D$ to include a third cause of behavior: incentive motivation, abbreviated as K .⁴ In addition to the motivational properties of D , the incentive value of a goal object (its quality, its quantity, or both) also energized the animal. After all, people generally work harder for \$50 than they do for \$1. Because he recognized that motivation could arise from either internal pushes (D) or from external pulls (K), Hull updated his formula as follows:

$${}_sE_r = {}_sH_r \times D \times K$$

Both D and K were motivational terms. The principal difference between the two was that D was rooted in internal stimulation via bodily disturbances, whereas K was rooted in external stimulation via the quality of the incentive. Thus, motivation arose from two sources: internal drive and environmental incentive.

³The subscripts s and r stand for “stimulus” and “response” to communicate that ${}_sH_r$ refers to a particular habitual response in the presence of a particular stimulus. Similarly, the subscripts joined with ${}_sE_r$ refer to the potential “energy” of that particular response in the presence of that particular stimulus.

⁴Incidentally, if you happen to wonder why incentive motivation was abbreviated as K instead of as I , K stood for Kenneth Spence (Weiner, 1972). Spence convinced Hull of the necessity of incorporating incentive motivation into his behavior system. Besides, I was used for another variable, inhibition, which is not discussed here.

Table 2.1 Midcentury Rankings of the 10 Most Important Historical Figures in Psychology

| | |
|------------------|---------------------|
| 1. Sigmund Freud | 6. Edward Thorndike |
| 2. Clark Hull | 7. William James |
| 3. Wilhelm Wundt | 8. Max Wertheimer |
| 4. Ivan Pavlov | 9. Edward Tolman |
| 5. John Watson | 10. Kurt Lewin |

In its zenith, Hull's drive theory was as popular as any theory in the history of psychology. That is a strong statement to make, but consider three historical occurrences that validate this claim. First, approximately half of all the articles published in the leading psychology journals in the early 1950s (e.g., *Psychological Review*, *Journal of Experimental Psychology*) included a reference to Hull's 1943 book. Second, books on motivation went from being practically nonexistent at midcentury to commonplace 10 years later (Atkinson, 1964; Bindra, 1959; Brown, 1961; Hall, 1961; Lindzey, 1958; Madsen, 1959; Maslow, 1954; McClelland, 1955; Peters, 1958; Stacey & DeMartino, 1958; Toman, 1960; Young, 1961). Third, in the 1950s the American Psychological Association (APA) invited its members to list the most important figures in the history of psychology (through midcentury). Those survey rankings appear in Table 2.1. Notice the two names at the top of the list.⁵

Decline of Drive Theory

Drive theory—both the Freudian and Hullian versions—rested on three fundamental assumptions: (1) drive emerged from bodily needs, (2) drive energized behavior, and (3) drive reduction was reinforcing and produced learning.

Throughout the 1950s, empirical tests of these three assumptions revealed both support and limitations. First, some motives emerged without any corresponding biological need. For instance, people with anorexia do not eat (and do not want to eat) despite a strong biological need to do so (Klien, 1954). Thus, motivation could emerge from sources other than one's bodily disturbances.

Second, research recognized that external (i.e., environmental) sources of motivation could energize behavior. For example, a person who is not necessarily thirsty can feel a rather strong motive to drink upon tasting (or seeing or smelling) a favorite beverage. Hull did add incentive motivation (*K*) to his formula, but the key point is that motivational energy arose not only from bodily physiology but from many other sources as well.

Third, learning often occurred without drive reduction. Hungry rats, for instance, learned even when reinforced only by a non-nutritive saccharin reward (Sheffield & Roby, 1950). Because saccharin has no nutritional benefit, it cannot reduce drive (i.e., cannot serve the needs of the body). Other research showed that learning occurred after drive *induction* (i.e., an increase in drive; Harlow, 1953). White (1959), for instance, explained how behavior was largely motivated by strivings for greater competence (rather than by drive reduction). Eventually, it became clear that drive reduction was neither necessary nor sufficient for learning to occur (Bolles, 1972). Over time, it became increasingly clear that motivational researchers needed to expand and broaden their intellectual search.

Post-Drive Theory Years

The 1950s and 1960s were transitional decades in the study of motivation. In the early 1950s, the prevalent motivation theories were the well-known, historically entrenched grand theories.

⁵By the dawn of the 21st century, the list of eminent psychologists had changed quite a bit (Haggbloom et al., 2002). In 2002, Sigmund Freud dropped to third, while Clark Hull dropped to 21. The turn-of-the-century top 10, in order from first to tenth, still features numerous motivation researchers: B. F. Skinner, Jean Piaget, Sigmund Freud, Albert Bandura, Leon Festinger, Carl Rogers, Stanley Schachter, Neal Miller, Edward Thorndike, and Abraham Maslow.

Drive theory dominated (Bolles, 1975; Hull, 1952). Additional prominent midcentury motivational theories included optimal level of arousal (Berlyne, 1967; Hebb, 1955), pleasure centers in the brain (Olds, 1969), approach–avoidance conflicts (Miller, 1959), universal needs (Murray, 1938), conditioned motives (Miller, 1948), and self-actualization (Rogers, 1959). As motivation study progressed and new findings emerged, it became clear that if progress was to be made, the field was going to have to step outside the boundaries of its grand theories. The motivation psychologists of the 1970s began to embrace mini-theories of motivation (Dember, 1965). The next section discusses these mini-theories. But it will be helpful to pause a moment to consider the two motivational principles from the 1960s that were offered as possible post-drive theory replacements for a (fourth) grand theory of motivation: incentive and arousal.

Consider incentive. An incentive is an external event (or stimulus) that energizes and directs approach or avoidance behavior. Drive reduction theory asserted that people were motivated by drives, which “pushed” them toward particular goal objects (e.g., hunger pushed the person to go find food). Incentive motivational theories asserted that people were motivated by the incentive value of various objects in their environment that “pulled” them toward these objects (e.g., strawberry cheesecake pulled the person toward the restaurant). The new idea was that while D needed to be removed from the $D \times K$ equation, perhaps K could stand on its own as a grand theory of motivation.

The incentive theories that emerged in the 1960s fundamentally sought to explain why people approached positive incentives and why they avoided negative ones (e.g., Bolles, 1972; Pfaffmann, 1960; Young, 1966). These theories adopted the concept of hedonism, which essentially postulates that organisms approach signals of pleasure and avoid signals of pain. Through learning, people formed associations (or expectancies) of which environmental objects were gratifying and thus deserved approach responses and which other objects were pain-inflicting and thus deserved avoidance responses. Overall, incentive theories offered three new features: (1) new motivational concepts, such as incentives and expectancies; (2) the idea that motivational states could be acquired through experience rather than only inherited through biology; and (3) a portrayal of motivation that highlighted moment-to-moment changes (because environmental incentives can change from one moment to the next).

Consider arousal. The rising disaffection with drive theory was countered by a rising affection for arousal theory. The discovery that lay the foundation for this transition came from the neuroscience finding of an arousal system in the brain stem (Lindsley, 1957; Moruzzi & Magoun, 1949). The central ideas in the study of arousal were that:

1. Arousal represents a variety of processes that govern alertness, wakefulness, and activation.
2. A person’s arousal level is mostly a function of how stimulating the environment is.
3. A moderate level of arousal coincides with the experience of pleasure and optimal performance.
4. People engage in strategic behavior to increase or decrease their level of arousal.
5. When underaroused, people seek opportunities to increase their arousal: Increases in environmental stimulation are pleasurable and enhance performance, whereas decreases in environmental stimulation are aversive and undermine performance.
6. When overaroused, people seek opportunities to decrease their arousal: Increases in environmental stimulation are aversive and undermine performance, whereas decreases in environmental stimuli are pleasurable and enhance performance.

These six principles can be organized collectively into the “inverted-U” relationship between arousal and performance/well-being shown in Figure 2.2. The inverted-U curve, first introduced more than 100 years ago by Yerkes and Dodson (1908), helps explain the relationship between level of environmental stimulation and performance and well-being (Berlyne, 1967; Duffy, 1957;

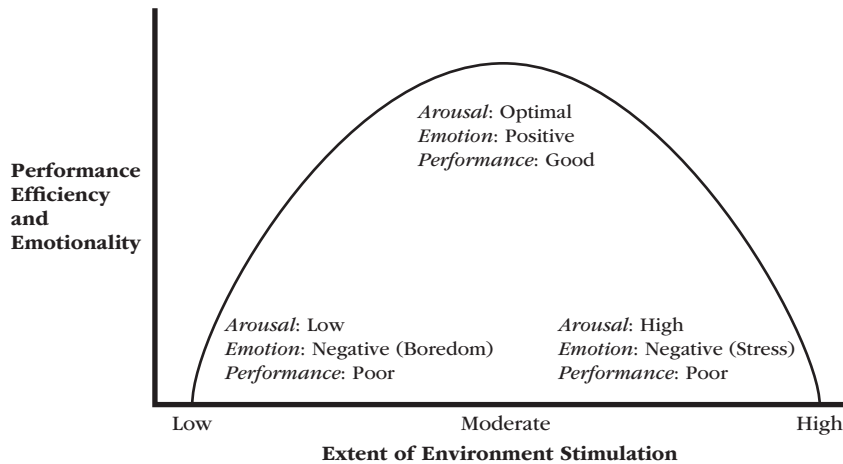


Figure 2.2 The Inverted-U Curve: Relationship between Arousal Level and Performance/Well-Being

Hebb, 1955; Lindsley, 1957; Malmö, 1959). Low environmental stimulation produced boredom and restlessness; high environmental stimulation produced tension and stress. Both boredom and stress are aversive experiences that people strive to escape from. Thus, the inverted-U curve predicts when increases and decreases in stimulation will lead to positive affect and approach behavior and when they will lead to negative affect and avoidance. Eventually, level of arousal (low, optimal, and high) came to be understood as something “synonymous with a general drive state” (Hebb, 1955, p. 249): The grand theory was that people prefer an optimal level of arousal.

RISE OF THE MINI-THEORIES

Unlike a grand theory that seeks to explain all motivation, mini-theories limit their explanatory ambition to specific motivational phenomena. Mini-theories seek to understand or investigate one particular:

- motivational phenomenon (e.g., achievement motivation, the flow experience).
- circumstance that affects motivation (e.g., failure feedback, role models).
- theoretical question (e.g., What is the relationship between cognition and emotion?).

A mini-theory explains some but not all motivated behavior. Thus, achievement motivation theory (a mini-theory) arose to explain how people respond to standards of excellence and hence why some people show enthusiasm and approach, whereas others show anxiety and avoidance. Achievement motivation theory leaves a great deal of motivated action unexplained, but it does a very good job of explaining one interesting domain of motivated action.

The following list identifies some of the mini-theories (with a seminal reference) that emerged in the 1960s and 1970s:

- Achievement motivation theory (Atkinson, 1964)
- Attributional theory of achievement motivation (Weiner, 1972)
- Cognitive dissonance theory (Festinger, 1957)
- Cognitive evaluation theory (Deci, 1975)
- Effectance motivation (Harter, 1978a; White, 1959)
- Expectancy \times Value theory (Vroom, 1964)

- Flow theory (Csikszentmihalyi, 1975)
- Intrinsic motivation (Deci, 1975)
- Goal-setting theory (Locke, 1968)
- Learned helplessness theory (Seligman, 1975)
- Reactance theory (Brehm, 1966)
- Self-efficacy theory (Bandura, 1977)
- Self-schemas (Markus, 1977)

Each of these 13 mini-theories of motivation will be discussed in the chapters to come. For now, it is important to note the major shift in thinking about the nature of motivation away from a single grand theory to a host of diverse mini-theories. It became increasingly evident that any one grand theory was simply unable to carry the whole burden of explaining motivation (Appley, 1991). In addition, the first journal devoted exclusively to the topic of motivation and emotion emerged in 1977, *Motivation and Emotion*. This journal has focused almost all of its attention on the empirical exploration of mini-theories of motivation.

Three historical trends emerged to explain why motivation study left behind its grand theories to embrace the new tradition of mini-theories:

1. Active nature of the person
2. Cognitive revolution
3. Socially relevant questions

Active Nature of the Person

The purpose of drive theory was to explain how an animal went from inactive to active (Weiner, 1990). The midcentury assumption was that animals (including humans) were naturally inactive, and the role of motivation was to arouse the passive to become the active. So drive, like all early motivational constructs, explained the instigating motor of behavior. As a point of illustration, a common midcentury definition of motivation was, “the process of arousing action, sustaining the activity in progress, and regulating the pattern of activity” (Young, 1961, p. 24). Motivation was the study of energizing the passive.

The psychologists of the second half of the century saw things differently. They emphasized that the person was *always* getting to and doing something (Lewin, 1951). People were inherently active, always motivated. People did not need motivation to start moving, because they were always in motion and always doing something in the first place. This understanding paralleled Albert Einstein’s 20th-century insight in physics that the natural state of planets was motion (because gravitational forces were always present). Like stars and planets, humans too experienced ever-present pushes and pulls. One midcentury motivational psychologist put it this way: “Sound motivational theory should ... assume that motivation is constant, never ending, fluctuating, and complex, and that it is an almost universal characteristic of practically every organismic state of affairs” (Maslow, 1954, p. 69). Perhaps there is no place where this is more evident than in young children: “They pick things up, shake them, smell them, taste them, throw them across the room, and keep asking, ‘What’s this?’ They are unendingly curious” (Deci & Ryan, 1985a, p. 11).

In their mid-1960s review of motivation theories, Cofer and Appley (1964) divided the motivation theories of the day into those that assumed a passive, energy-conserving organism versus those that assumed an active, growth-seeking organism. In 1964, the passive-oriented portrayals outnumbered the active portrayals by 10 to 1. But theories assuming an active organism were beginning to emerge and gain prominence. Today’s ideas about motivation and emotion accept the

premise of the active organism, and they deal less with deficit motivations (e.g., tension reduction, homeostasis, equilibrium) and more with growth motivations (e.g., competence, possible selves, self-actualization) (Appley, 1991; Benjamin & Jones, 1978; Rapaport, 1960; White, 1960). In the present book, the ratio of passive-to-active portrayals of motivation would be reversed by 1 to 10 (or perhaps 1 to 100).

Cognitive Revolution

The early motivational concepts—drive, homeostasis, arousal—were grounded in biology and physiology. Contemporary motivation study continues to maintain this alliance, but the tide changed in the early 1970s as psychology's *Zeitgeist* (its “intellectual climate”) turned decidedly cognitive (Gardner, 1985; Segal & Lachman, 1972). The historical trend became known as the cognitive revolution. It was a time in which researchers focused on the power of thought, beliefs, expectations, goals, and judgments as the primary causes of behavior. The cognitive revolution spilled into motivation in the same way that it spilled into virtually all areas of psychology (D'Amato, 1974; Dember, 1974).

The importance of the cognitive revolution to motivation study was threefold. First, motivational concepts took a backstage position as a cognitive interpretation of events took psychology's center stage. In some sense, motivation study was not only moved to backstage but to offstage, because a cognitive perspective on action was initially believed to not need motivational constructs (Hilgard, 1987). The analogy of the day was to the computer and to its motivation-less information-processing operating system.

Second, even motivation researchers themselves began to emphasize internal mental processes and cognitive constructs (e.g., expectancies, goals) and to deemphasize (even banish) biological and environmental constructs. Some of the mentalistic motivational constructs to emerge included plans (Miller, Galanter, & Pribram, 1960), goals (Locke & Latham, 1990), expectations (Seligman, 1975), beliefs (Bandura, 1977), attributions (Weiner, 1972), and the self-concept (Markus, 1977).

Third, psychology's image of human functioning became more “human rather than mechanical” (McKeachie, 1976, p. 831). This ideological shift from mechanical to dynamic and from animal drive to human cognition was captured nicely in the title of one of the popular motivation texts of the day, *Theories of Motivation: From Mechanism to Cognition* (Weiner, 1972). A review of motivation studies from the 1960s and 1970s shows a marked decline in experiments manipulating the deprivation states of rats and a marked increase in experiments manipulating success or failure feedback given after human performance (Weiner, 1990). The experimental design is not much different, but the focus on humans, instead of animals, is unmistakable.

Paralleling the cognitive revolution was the emerging movement of humanism. Humanistic psychologists critiqued the prevailing motivation theories of the 1960s as decidedly dehuman. Humanists resist the machine metaphor that portrays motivation in a deterministic fashion in response to unyielding biological forces, developmental fates (e.g., traumatic childhood experiences), or controls in the environment or society (Bugental, 1967). Ideas from Abraham Maslow and Carl Rogers (Chapter 15) nicely expressed psychology's new understanding of human beings as inherently active, cognitively flexible, and growth motivated (Berlyne, 1975; Maslow, 1987; Rogers, 1961).

Socially Relevant Questions

A third important change helped usher in the mini-theories era: Researchers turned their attention to questions that were relevant to solving the motivational problems people faced in their everyday lives (McClelland, 1978)—at work (Locke & Latham, 1984), in school (Weiner, 1979), in coping with stress (Lazarus, 1966), in solving health problems (Polivy, 1976), in reversing depression (Seligman, 1975), and so on. As researchers studied nonhuman animals less and humans more,

they discovered a wealth of naturally occurring instances of motivation outside the laboratory. Hence, motivation researchers began focusing increasingly on socially relevant, applied questions and problems.

Motivation psychologists began to initiate more frequent contact with psychologists in other areas, such as social psychology, industrial/organizational psychology, and clinical and counseling psychology. Overall, the field became less interested in studying, for instance, hunger as a source of drive and more interested in studying the motivations underlying eating, dieting, obesity, and bulimia (Rodin, 1981; Taubes, 1998).

Emphasizing applied, socially relevant research placed contemporary motivation study in a sort of “Johnny Appleseed” role in which individual motivation researchers left their laboratories to take their questions (What causes behavior?) into psychology’s areas of specialization. Motivation’s new alliances with other fields in psychology can be illustrated in Figure 2.3. The figure illustrates explicitly how motivation links itself with the reader’s other courses in psychology. That is, courses in social psychology, personality, and educational psychology will have some content that is decidedly motivational. Because of this overlap, it is sometimes difficult to say where the study of cognition ends and where the study of motivation begins (Sorrentino & Higgins, 1986) or where the study of perception ends and where the study of motivation begins (Bindra, 1979). As one neuroscientist puts it, “Motivational concepts are needed to understand the brain, just as brain concepts are needed to understand motivation” (Berridge, 2004, p. 205).

The point of Figure 2.3 is to show that the questions in motivation study are highly relevant to practically all other subfields within psychology. This is because issues of motivation and emotion have far-reaching theoretical implications and practical applications that reach into and inform practically all aspects of both psychology and people’s daily lives. Because of this relevance, motivation researchers maintain a constant dialogue with a wide range of allied fields of study. Thus, weak or highly permeable boundaries exist between motivation and other academic fields to the point that today’s motivation researcher is as likely to be a social psychologist, a health psychologist, or an educational psychologist as he or she is to be a motivation psychologist per se.

Permeable, weak boundaries between motivation and allied fields generally suggest an identity crisis, but in practice, the absence of sharp boundaries facilitated the exchange of ideas and fostered

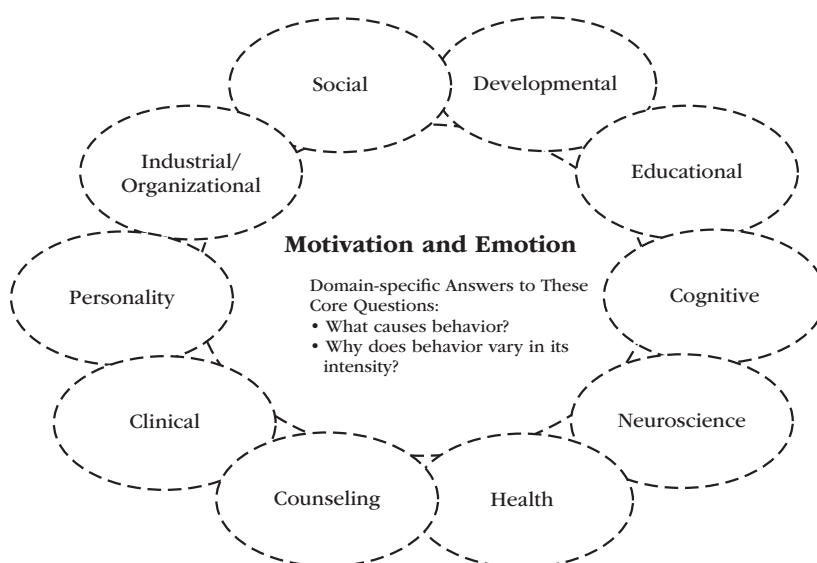


Figure 2.3 Relation of Motivation Study to Psychology’s Many Areas of Specialization

an exposure to different perspectives and methodologies (Feshbach, 1984), including those outside of psychology (e.g., sociology; Turner, 1987). As a consequence, contemporary motivation study has gained a special richness and vitality (McNally, 1992). Much of what occurs in contemporary motivation research reflects the search for both a deeper scientific understanding of motivational processes as well as practical and useful applications of motivational principles to improve people's lives (Pintrich, 2003). In fact, it is somewhat unusual to encounter a contemporary scientific investigation about motivation that does not speak to a socially relevant, practical application.

CONTEMPORARY ERA

Thomas Kuhn (1962, 1970) described the history of most sciences, emphasizing that a discipline makes both continuous and discontinuous progress. With continuous progress, participants make slow, incremental, and cumulative progress as new data add to and supplant old data and new ideas add to and supplant outworn ideas. Progress is gradual. With discontinuous progress, however, radical ideas appear and rival (rather than add to) old ideas. If the radical ideas gain acceptance, researchers' ways of thinking drastically change as old models are torn down to make room for new models to take their place. Progress is revolutionary.

Kuhn's developmental view of the history of a scientific field appears in Table 2.2. In its preparadigmatic stage, the primitive beginnings of a discipline take root as participants all ask different questions, use different methods, pursue different problems, and basically disagree and argue a lot. The state of the science is chaotic. In its paradigmatic stage, the discipline's participants succeed in reaching a consensus as to what constitutes their common theoretical and methodological framework. This shared framework (a paradigm) allows each contributor to understand the discipline's methods and questions in the same way. Participants are then able to work collaboratively to gain an increasingly detailed and integrated understanding of their subject matter. Over time, however, the limitations and inadequacies of the accepted paradigm become apparent as an anomaly surfaces that cannot be explained with the prevailing paradigm. A general discomfort soon runs throughout the field. Participants look for new answers, even if those new answers seem radical. As a result, fresh insights and new discoveries arise, and these insights and discoveries breed a new way of thinking (a paradigm shift). It is not a smooth transition; it involves conflict, rivalry, and in-groups versus out-groups. But if the new way of thinking can succeed in explaining what the old paradigm cannot, then constructive change occurs. Armed with their new way of thinking, researchers eventually settle into the new and improved paradigm, a process that typically takes multiple generations of scientists. Two classic examples of paradigm shifts, for

Table 2.2 Outline of the Typical Development of a Scientific Discipline

| | |
|--------------------------|--|
| 1. Preparadigmatic | A budding science emerges. It consists of participants who do not share the same language or the same knowledge base. Debates are frequent about what should be the discipline's methods, core questions, and key problems to address and solve. |
| 2. Paradigmatic | Factionalism gives way to a shared consensus about what constitutes the discipline's methods, questions, and problems to solve. This shared consensus is called a paradigm. Participants who share this paradigm accumulate knowledge and make incremental advances. |
| 3. Crisis and revolution | An anomaly emerges that cannot be explained by the existing consensus/paradigm. A clash erupts between the old way of thinking (that cannot explain the anomaly) and the new way of thinking (that can explain the anomaly). |
| 4. New paradigm | The new way of thinking and explaining brings discipline-changing progress. Embracing the new consensus, participants settle into the new paradigm (the paradigmatic stage). Progress returns to making incremental advances. |

instance, occurred when the Copernican revolution replaced astronomers' ideas of earth centrality and when Einstein's general theory of relativity unseated Euclidean geometry. Astronomy and physics were forever changed by these paradigm shifts.

As a discipline, motivation study has participated in the rise and fall of three major ways of thinking: will, instinct, and drive. Each of these motivational concepts gained wide acceptance, but as new data emerged, each concept proved to be too limiting for further progress. Eventually, each was replaced by the next new-and-improved radical idea. Motivation study is currently in the midst of its mini-theories era.

The rejection of drive as a grand theory of motivation produced consequences that were both good and bad. On the bad side, motivation was dethroned as perhaps psychology's most important discipline to a sort of second-class field of study. The dethronement of motivation was so severe that, to some degree, the field collapsed for a decade and a half. Motivational concepts were set aside as the discipline was dominated first by behaviorists who saw motivation as something that took place outside the person (in the form of incentives and reinforcers) and second by cognitivists who saw little need for motivational concepts within their computer-based information processing metaphor.

Motivation study did not, however, disappear. The questions that define motivation, discussed in Chapter 1, endured. Instead of disappearing like wanderers in search of a home, motivation specialists dispersed themselves into virtually all areas of psychology. That is, the questions of motivation proved to be significant for and relevant to practically every aspect of psychology (as per Figure 2.3). Motivation researchers therefore branched out in alliances with other fields to form a loose network of researchers who shared a common concern and commitment to motivationally relevant questions and problems. Learning theorists, personality psychologists, social psychologists, clinicians, and others were unable to explain all the behavior they sought to explain without using motivational concepts. For instance, among neuroscientists, motivational concepts (e.g., hunger, pleasure) are vital to understanding why the brain evolved the way it did to such an extent that neuroscience truly needs to ally itself with the study of motivation (Berridge, 2004). What emerged were theories of social motivation (Pittman & Heller, 1988), cognitive motivation (Sorrentino & Higgins, 1986), developmental motivation (Kagan, 1972), motivation in educational settings (Pintrich, 2003), and so forth. Furthermore, motivation theories specific to particular domains of application emerged: theories to explain the motivation underlying dieting and bingeing (Polivy & Herman, 1985), work (Locke & Latham, 1984, 1990; Vroom, 1964), sports (Roberts, 1992; Straub & Williams, 1984), and education (Weiner, 1979). By the 1980s, motivation psychologists were scattered into literally every area of psychology.

The 1990s Reemergence of Motivation Study

Starting in 1952, the University of Nebraska invited the most prominent motivation theorists of the day to gather annually for a symposium on motivation. In its inaugural year, contributors included Harry Harlow, Judson Brown, and Hobart Mowrer (famous names in motivation study). The next year, John Atkinson and Leon Festinger presented papers. Abraham Maslow, David McClelland, James Olds, and Jullian Rotter presented papers in the third year (again, all famous names in motivation study). The symposium quickly became a success and served a leadership role in defining the field. The symposium continued uninterrupted for 25 years, until a fundamental change occurred in 1978 (Benjamin & Jones, 1978). In 1979, the symposium discontinued its motivational theme and, instead, considered topics that changed from one year to the next, none of which had much to do with motivation. The 1979 symposium focused on attitudes, and later symposiums focused on topics such as gender, addictive behaviors, and aging. Recall that these years correspond to motivation's dethronement as perhaps psychology's most important field to a second-class field. Basically, the Nebraska Symposium, like psychology in general, lost interest in the study of motivation.

The story does not end with motivation in hopeless crisis, however. In recognition of motivation's revival and the advances and accomplishments made during the mini-theories era, the organizers of the 1990 Nebraska Symposium once again invited prominent motivation researchers to gather for a symposium devoted exclusively to the concept of motivation (Dienstbier, 1991). During that conference, the organizers asked the participants—Mortimer Appley, Albert Bandura, Edward L. Deci, Douglas Derryberry, Carol Dweck, Richard Ryan, Don Tucker, and Bernard Weiner (again, all famous names in motivation study)—if they thought motivation was once again strong enough and mature enough as a field to support an exclusive return to motivation topics. Unanimously and enthusiastically, the contributors agreed that motivation was once again a rich and thriving field of study.

BOX 2 *The Many Voices in Motivation Study*

Question: Why is this information important?

Answer: To become aware of the diversity of voices trying to understand motivation.

Motivational phenomena are complex events that exist at multiple levels (e.g., neurological, cognitive, cultural). In practice, however, most people attempt to explain any given motivational state by relying on only a single level or perspective. For instance, when a teenager loses interest in schooling, a parent (or researcher) typically goes in search of “the” one explanation of why interest is low. Another way to think about motivation, however, is to become aware of a full range of possible explanatory forces. Here is a list of 10 prominent voices that participate in discussions of contemporary motivation study:

| Perspective | Motives emerge from ... |
|------------------|-----------------------------|
| Neurological | Brain activations |
| Biological | Hormones, psychophysiology |
| Evolutionary | Genes and genetic endowment |
| Implicit | Reactions without awareness |
| Cognitive | Mental events and thoughts |
| Behavioral | Environmental incentives |
| Psychoanalytical | Unconscious processes |
| Humanistic | Encouraging human potential |
| Social-cognitive | Socially created beliefs |
| Cultural | Organizations and societies |

Most motivational states can (and indeed need to) be understood at multiple levels—from a neurological level, a cognitive level, a social level, and so on. The days are gone when motivation researchers could focus on a single motivational agent and study it in relative isolation, although doing so was once standard practice. Today, practically all motivation researchers emphasize the complex contribution of multiple motivational agents to explain behavior's energy, direction, and persistence. As a point of illustration,

consider how to best understand and explain sexual motivation:

- Neuroscientists explain desire as a product of the neurotransmitter dopamine being released into the subcortical brain.
- Biologists emphasize that the rise and fall of hormones such as testosterone and oxytocin in desire and intimacy.
- Evolutionists add that men and women have different mating strategies, and they desire different qualities in a mate.
- Implicit process researchers identify our automatic, nonconscious reactions to potential sexual partners.
- Cognitivists add that desire further comes from expectancies, goals, and values.
- Behaviorists point to that part of desire that stems from how attractive or reinforcing another person is, as in physical attractiveness.
- Psychoanalysts note that we desire a romantic partner who is consistent with our childhood attachments and mental model of what is ideal.
- Humanists point to that part of desire that stems from an intimate, growth-promoting relationship.
- Social-cognitive researchers add that our beliefs and expectations about love and romance arise from social models.
- Cross-cultural researchers point out that people in different cultures experience romantic love and sexual motivation differently.

What this theoretical eclecticism offers is the opportunity to connect together more of the *Why?* pieces of the puzzle to develop a more sophisticated and comprehensive understanding of the nature and function of motivation and emotion. After all, the more pieces of the puzzle you have, the clearer the overall picture becomes.

In the 1970s, motivation study was on the brink of extinction, “flat on its back,” as one pair of researchers put it (Sorrentino & Higgins, 1986, p. 8). At the same time, however, advances in neuroscience, evolutionary psychology, and even statistical methodologies were showing the limits of a purely cognitive analysis of behavior (Ryan, 2007). Cognitions were important to the initiation and regulation of behavior, but cognitions are also inherently intertwined with noncognitive motivations, emotions, and affects that guide, constrain, and even overwhelm cognitive processes. In addition, new journals of motivation and emotion began to emerge, as the first issue of *Cognition and Emotion* appeared in 1987, and the first issue of *Emotion* appeared in 2001. New societies also emerged, such as the Society for the Study of Motivation, in 2008. This society started the new journal *Motivation Science* in 2015.

Contemporary motivation study once again has its critical mass of interested and prominent participants (see Box 2). To document such an optimistic conclusion, the reader can glance through psychology’s major journals (e.g., *Psychological Bulletin*, *Psychological Science*) and expect to find an article related to motivation in practically each issue. Motivational questions and problems are just too interesting and important to ignore, it seems. And the same may be said for journals in a number of specialty areas as well (e.g., *Journal of Educational Psychology*, *Journal of Personality and Social Psychology*, and *Journal of Exercise and Sport Psychology*). In the 15 chapters still to come, the reader can expect to encounter a growing field—a bit disorganized, but one that is clearly interesting, relevant, and vital. As one motivation researcher phrased it, “If what you have is a way to help people address the significant questions in their lives, then there are ‘Help Wanted’ signs all over the place.”

BRIEF HISTORY OF EMOTION STUDY

The historical and contemporary study of emotion has paralleled and complemented that of motivation, but emotion study has also experienced some of its own unique historical development. Historically speaking, the concept of “emotion” is a relatively recent one. As it is understood today, the concept first emerged with Descartes’s *The Passions of the Soul*.

For Descartes (1649/1970), *passion* meant emotional “uproar” and implied an unruly, vigorous, and strong bodily reaction. The idea was that a basically passive individual was going along rather well in life until an environmental event produced in him or her an overwhelming bodily reaction that transitioned that state of passivity into one of uproar, one that took control over thought and action. What Descartes called a passion, a contemporary would call an emotion.

What stirred the passions were people, objects, and events. People reacted to such environmental encounters with acceptance or rejection, pleasure or pain, and effective coping or being overwhelmed. But just why people reacted in such ways to the important events in their lives became an important matter of debate. Evolutionists such as Charles Darwin (1872) argued that emotional reactions were innate and served the purpose of individual adaptation to environmental opportunities and challenges. For instance, an obstacle to one’s plans led to an anger reaction, and that aroused passion (emotion) then functionally increased the person’s chances of coping successfully with the imposed obstacle. Cultural anthropologists such as Margaret Mead, however, argued that emotional reactions were socially learned and therefore culturally variable. That is, one’s culture—not one’s biology—taught the person how to react to imposed obstacles. Like so many questions about the nature of emotion, the answer to this question continues to be debated. In fact, questions about the nature, function, and potential self-regulation of emotion essentially define both the historical and the contemporary study of emotion.

One pivotal question throughout the historical study of emotion has been to ask how specific versus how general emotions are. Early emotion theorists such as William James (1884) adopted a general position. For James, like Descartes, an important life event rather reliably and automatically

stirred a general bodily physiological reaction (e.g., changes in heart rate, pupil dilation). An emotional experience was essentially the person's interpretation of what that general pattern of reactivity was (e.g., my heart is racing, my hands are sweating, my breath is shallow and quick; therefore, I must be afraid). Because there were only a handful of physiological patterns, it was assumed that there were only a handful of specific emotions. Some later emotion theorists, such as Stanley Schachter (1964), argued that a person's physiological reaction was a general arousal state, and the person needed environmental cues to interpret any specific emotional reaction.

Emotion researchers who studied facial expressions, including Silvan Tomkins (1962, 1963), Carroll Izard (1971), and Paul Ekman (1972), however, argued that people showed many different emotional facial expressions to different life events. Using this logic, there were at least as many individual emotions as there were discrete facial expressions (e.g., an anger expression, a sadness expression). In a similar spirit, cognitive appraisal theories, such as Richard Lazarus (1968), argued that there were as many different emotions as there were cognitive appraisals of the meaning of the events that were happening to the person. For instance, because there are many different types of harm (e.g., being insulted, suffering irrevocable loss, eating spoiled food, failing to live up to an ego ideal), there was a specific emotion for each specific type of harm (e.g., anger, sadness, disgust, shame, respectively).

Overall, emotion study remains a young, incoherent, and largely preparadigmatic field of scientific study. The one shared commonality that gives emotion study its structure and history is that it addresses age-old questions that people care so much about, questions such as the following:

- What is an emotion (i.e., define it)?
- What causes an emotion?
- How many emotions are there?
- Are emotions constructive assets or dysfunctional liabilities?
- Can we control our emotions—can emotions be self-regulated and managed?
- What is the difference between emotion and mood?
- What is the relation between emotion and cognition?
- What is the relation between emotion and motivation?

Emotion study will advance as a scientific field as it finds new and more sophisticated ways to answer these core questions. The contemporary answer to all eight of these questions can be found in Chapter 12, entitled “Nature of Emotion: Six Perennial Questions.”

CONCLUSION

Much can be gained by wading through 24 centuries of thinking about motivation and emotion. Consider the ancient questions: Why behave? Why do anything—why get out of bed in the morning? Given these questions, the history of motivation began with the search for the instigators of behavior—that is, the search to identify what energizes or initiates behavior. For two millennia (from Plato [ca. 428–348 BC] to Descartes [ca. 1596–1650]), the intellectual effort to understand motivation focused on the will, an immaterial entity that proved to be too difficult an undertaking for the new science of psychology. Biology (physiology) proved to be a more suitable alternative because its subject matter was material and measurable. In answering the Why behave? question, the answer came to be that behavior serviced the needs of the organism. Instinct, drive, arousal, and passion all gained appeal because each clearly energized behavior that served the needs of the organism (e.g., people get out of bed because they are hungry and need to eat something). Incentive added to these motivational constructs because hedonism (approach pleasure, avoid pain) explained how

environmental events could also energize behavior by pulling or tempting people out of bed. Century by century, thinkers were improving their answers to the question of what instigates behavior: will, instinct, drive, incentive, arousal.

The whole process was going along rather nicely until a critical mass of motivation researchers realized that—egads!—they were asking and pursuing the wrong question. The question of the instigation of behavior presumes a passive and biologically regulated organism; that is, one who is asleep and upon awaking, needs some motive to get into a behaving mode. At some point, motivation thinkers realized that sleeping was behaving and that the proverbial sleeper was actively engaged in his or her environment. The realization was that to be alive is to be active: Organisms are therefore always active, always behaving. There is no time in which a live organism is not behaving; there is no time in which a live organism is not showing both energy and direction. There is simply no such thing as a person who is not motivated.

The fundamental questions of motivation study therefore shifted: Why does behavior vary in its intensity? Why does the person do one thing rather than another? These two questions expanded the charge of motivation study. Contemporary motivation study focuses not only on behavior's energy but also on its direction and endurance. This is why the three historical trends of the active organism, cognitive revolution, and socially relevant questions are so important—namely, because the field became less entrenched in the instigators of behavior, in biology, and in animal laboratory experiments and increasingly interested in the directors of behavior, in cognition, and in human problems. This change in perspective opened the intellectual floodgates for the arrival of the field's mini-theories and for the dispersion of motivation study into practically all other fields within psychology.

SUMMARY

A historical view of motivation study allows the reader to consider how the concept of motivation came to prominence, how it changed and developed, how ideas were challenged and replaced, how motivation study lost its way, and finally, how the field reemerged and brought together various disciplines within psychology (Bolles, 1975).

Motivational concepts have philosophical origins. From the ancient Greeks through the European Renaissance, motivation was understood within the two themes of what is rational, immaterial, and active (i.e., the will) and what is impulsive, biological, and reactive (i.e., bodily desires). The philosophical study of the will turned out to be a dead end that explained very little about motivation, because it actually raised more questions than it answered.

To explain motivation, the new field of psychology pursued a biological–physiological analysis of motivation by focusing on the mechanistic, genetically endowed concept of the instinct. The appeal of the instinct doctrine was its ability to explain unlearned behavior that had energy and purpose (i.e., goal-directed biological impulses) and do so by using a concept whose origins could be identified (i.e., genetic endowment). Instinct proved to be an intellectual dead end as well, at least in terms of its capacity to serve as a grand theory of motivation.

Motivation's third grand theory was drive. In drive theory, behavior was motivated to the extent that it served the needs of the organism and restored a biological homeostasis. Like will and instinct, drive appeared to be full of promise, especially because it could do what no motivation theory had ever done before—namely, predict motivation before it occurred from antecedent conditions (e.g., hours of deprivation). Consequently, the theory enjoyed wide acceptance, especially as manifest in the theories of Freud and Hull. In the end, drive theory, too, proved itself to be overly limited in scope, and with its rejection came the field's disillusionment with grand theories in general, although several additional candidate theories emerged with some success, including incentive and arousal.

Eventually, it became clear that if progress was to be made in understanding motivation, the field had to step outside the boundaries of its grand theories and embrace the less ambitious, but

more fruitful, mini-theories. Three historical trends explain this transition. First, motivation study rejected its commitment to a passive view of human nature and adopted a more active portrayal of human beings. Second, motivation turned decidedly cognitive and somewhat humanistic. Third, the field focused on applied, socially relevant problems.

The field's changed focus toward mini-theories was part disaster and part good fortune. As disaster, motivation lost its status as psychology's flagship discipline and descended into a second-class status. In reaction, motivation researchers dispersed into virtually all areas of psychology (e.g., social, developmental, clinical, educational) and forged alliances with these other fields to share ideas, constructs, methodologies, and perspectives. This turned out to be motivation's good fortune, however, because the field's scattering proved to be fertile ground to develop a host of enlightening mini-theories. Motivation study in the 21st century is populated by multiple perspectives and multiple voices (see Figure 2.3, Box 2), all of which contribute a different piece to the puzzle of motivation and emotion study.

The historical and contemporary study of emotion has paralleled and complemented that of motivation, but emotion study has also experienced some of its own unique historical development. Emotion study has followed motivation study's emphases on, first, philosophy (Descartes), then biology and evolution (Darwin), to now psychology (James, Tomkins, Izard, Ekman, and Lazarus). Overall, emotion study remains a young, incoherent, and largely preparadigmatic field of scientific study that is held together by its fundamentally important and age-old questions, such as the following: What is an emotion? What causes an emotion? How many emotions are there? What good are the emotions? Can we control and self-regulate our emotions? What is the difference between emotion and mood? Emotion study will develop and progress to the extent that it can find new and ever more sophisticated ways of answering these field-defining questions.

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The Motivated and Emotional Brain

MOTIVATION, EMOTION, AND NEUROSCIENCE

- Day-to-Day Events Activate Specific Brain Structures

- Activated Brain Structures Generate Specific Motivations and Emotions

NEURAL BASIS OF MOTIVATION AND EMOTION

- Cortical Brain

- Subcortical Brain

- Bidirectional Communication

INDIVIDUAL BRAIN STRUCTURES INVOLVED IN MOTIVATION AND EMOTION

Subcortical Brain Structures

- Reticular Formation

- Amygdala

- Reward Center: Striatum, Nucleus Accumbens, and Ventral Tegmental Area

- Pleasure Cycle

- Addiction

- Motivated Action: Basal Ganglia

- Hypothalamus

Cortical Brain Structures

- Insula

- Prefrontal Cortex

- Orbitofrontal Cortex

- Ventromedial Prefrontal Cortex

- Dorsolateral Prefrontal Cortex

- Anterior Cingulate Cortex

HORMONES

- Cortisol

- Oxytocin

- Testosterone

SUMMARY

READINGS FOR FURTHER STUDY

As you and a friend walk into the psychology building, you eye a poster recruiting volunteers for a neuroscience experiment. Volunteers will receive \$50 for their time, so you look at each other, nod approvingly, and decide to give it a try. After all, neuroscience experiments tend to pay well. Upon arrival, you see an experimental room that looks more like a hospital than a psychology department. A huge machine—an *f*MRI scanner—occupies one room, a second *f*MRI scanner

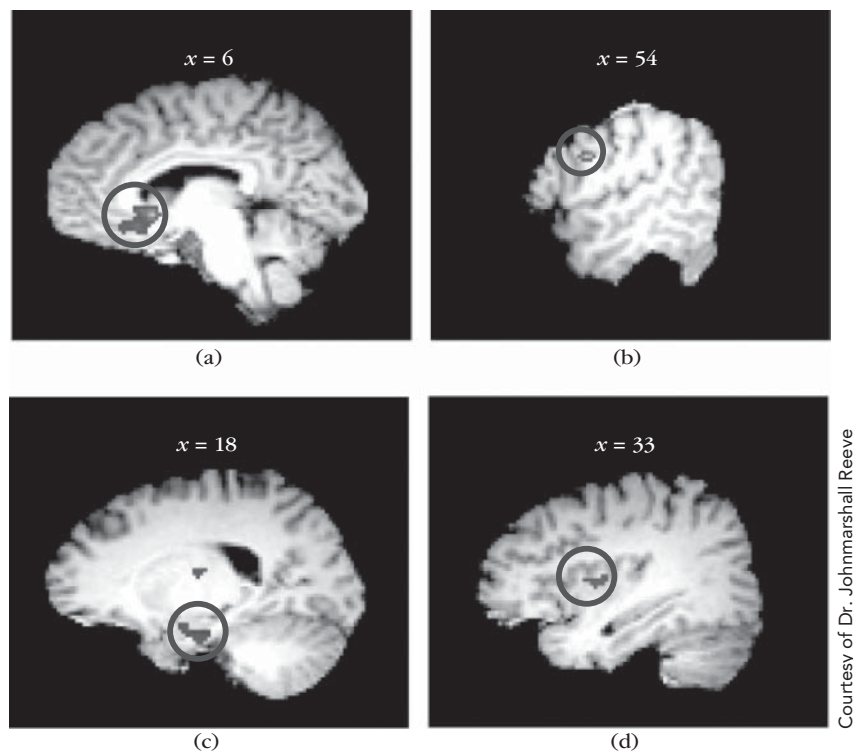
occupies an adjacent room, and lots of computers and screens occupy a third “master control” room to monitor what is happening to the people who lie inside those two huge brain-scanning machines.

The experiment begins. You enter one fMRI machine and your friend enters the other. Together, you will play a game and make decisions. The game will have two rounds. In round 1, you will be the “proposer” and your friend the “responder.” To start the round, you are given \$20 and then asked how much you want to keep for yourself and how much you wish to give to your friend. The rules are simple: If the responder (your friend) accepts your offer, you both keep the money agreed upon; if the responder rejects your offer, neither keeps any of the money. This is a game that pits self-interest (keep most of the money for yourself) versus social concern (be fair and share the money).

In round 1, you propose \$12 for yourself and offer \$8 to your friend. After all, it is your \$20 and it is your decision what to do with the money. You send the message, “Keep \$12, Give \$8,” and wait to see if your offer is accepted or rejected. A minute later, you see “Accept Offer.” You now have \$12, and your friend has \$8.

In round 2, the tables are turned so that your friend is now the proposer and you are the responder. You wait for an offer. The offer arrives: “Keep \$19, Give \$1.” This is not fair! This is not right! It is greed and exploitation! Feeling a bit hot, you press “Refuse Offer.” You lose a free \$1, but you also stop your greedy so-called friend from taking advantage of you.

The experimenter invites you and your friend into the master control room so that she can show your in-game brain activity. With a couple of clicks, several brain images appear on the computer screen, as in Figure 3.1. Looking at the brain scans, she explains, “Okay, let me see if I can guess what



Courtesy of Dr. Johnmarshall Reeve

Figure 3.1 Brain scans of the “Proposer” in Round 1 and the “Responder” in Round 2

Note: Nucleus accumbens activations appear in the upper-left panel (a); dorsolateral prefrontal cortex activations appear in the upper-right panel (b); amygdala activations appear in the lower-left panel (c); and insula activations appear in the lower-right panel (d). All images are taken from fMRI imaging. In each picture, the front of the brain appears on the left

decisions you made.” She points to the brain scan on the upper-left side of Figure 3.1—you in the role of the Proposer during round 1. She says, “I can tell from this activity in your nucleus accumbens (a) that you found the \$20 to be attractive, and I can tell from this activity in your dorsolateral prefrontal cortex (upper-right panel) (b) that you exercised self-control over the temptation to keep all the money for yourself. From what I see here on the screen, I’ll bet you shared the money.” You nod.

Then she points to the brain scans on the lower-left side of Figure 3.1—you in the role of the Responder during round 2. She says, “Oh my. I can tell from this activity in your amygdala (c) that you felt rather upset—perhaps even angry—about the offer. And, I can tell from this insular activity (lower-right panel) (d) that you experienced negative feelings. You were quite upset, no? You refused the offer, didn’t you?” Again, you nod.

MOTIVATION, EMOTION, AND NEUROSCIENCE

Neuroscience is the scientific study of the nervous system—and the human brain in particular. This chapter, however, is not about the nuts-and-bolts biology of the nervous system (e.g., neurons, synapses). Instead, the chapter looks at the human brain in action—how its neural structures and pathways are associated with psychological processes (cognitive neuroscience; Gazzaniga, Ivry, & Mangun, 2008), motivational processes (motivational neuroscience; Reeve & Lee, 2012), and emotional processes (affective neuroscience; Davidson & Sutton, 1995).

The human brain is the marvel of the universe. There really is nothing else like it. It contains approximately 3 pounds of gray matter (neurons and synapses) and white matter (connecting fibers and axons) that are home to 100 billion neurons that support 100 trillion neuron-to-neuron connections.

Why is the brain important? Most people say that the brain is important because it carries out cognitive and intellectual functions, including thinking, learning, remembering, decision making, and problem solving (Behrens, Fox, Laird, & Smith, 2013). Others, including physicians and those who work in special education, say the brain is important to understand clinical conditions, such as autism, dyslexia, and stuttering. Still others study the brain as a sensory-perceptual organ, because much of what the brain does is process and make sense of the environment (e.g., the huge occipital lobe processes vision). These are important brain processes, but the brain does more. The brain is also the center of motivation and emotion. It generates cravings, needs, desires, preferences, pleasure and pain, liking and wanting, and emotions and feelings. This chapter is specifically about the motivated and emotional brain.

Day-to-Day Events Activate Specific Brain Structures

When someone flashes you a warm smile, a small brain structure in the back, right side of the brain—the posterior superior temporal sulcus (pSTS) processes what you are seeing and rather instinctively (automatically) knows that the person is happy and friendly (Srinivasan, Golomb, & Martinez, 2016). Similarly, when someone flashes you an angry facial expression, the amygdala processes this and rather instinctively knows that threat and danger are coming. In the chapter’s opening vignette, the opportunity to gain money activated the nucleus accumbens, and it was the injustice of being taken advantage of that activated the amygdala and insula. What these examples illustrate is that environmental events in the physical and social world—events that range from predators, bullies, and loud noises to a pleasant smell, a humorous video clip, and finding a \$20 bill that we thought we had lost—produce brain activations.

In the laboratory, researchers understand brain functioning by stimulating specific brain structures to see what happens. They ask questions such as, “If I apply a mild electrical stimulation to this particular brain area, what will happen?” In doing so, they can isolate the specific functions

associated with the various brain structures (e.g., “The amygdala does this, the nucleus accumbens does that ...”). During surgery, for instance, the surgeon might apply a probe to send a mild electric current to a specific brain structure. Since the brain has no pain receptors, such brain stimulation is actually painless. When the surgeon stimulates one area of the brain, the person may move his or her index finger. When the surgeon repositions the probe to touch another area, a particular sensation or a childhood memory may come to mind.

Unless you are a surgeon, direct stimulation to the brain is a rather impractical idea. The current gold standard to look inside the brain is functional magnetic resonance imaging (*fMRI*). The *fMRI* detects changes in brain activity as active brain areas are fueled by glucose and oxygen. Glucose and oxygen are both carried in the blood, and when a brain area becomes active, then blood—and hence the glucose and oxygen within it—flows toward it. So, while a person is lying inside the *fMRI* scanner, the neuroscientist can expose the person to some environmental stimuli (e.g., an emotional facial expression) and follow the oxygen to observe the brain at work. There are actually several ways to observe brain activity in real time, including measuring electrical brain activity directly with an electroencephalogram (EEG) or measuring metabolic effects of changes in glucose absorption with a positron emissions tomography scanner (PET scan). Whether the researcher uses *fMRI*, EEG, or PET, this ability to observe and measure the live brain in action has led to an explosion of knowledge about the neural bases of motivation and emotion.

Activated Brain Structures Generate Specific Motivations and Emotions

Half of the equation in a neuroscientific understanding of motivation and emotion is to understand how internal (thought) and external (environmental) events activate specific brain structures (e.g., What activates the insula?). The other half of the equation is to know how specific brain structures, once activated, energize, direct, and sustain motivational and emotional states (e.g., What does the activated insula do?). Different brain structures, when stimulated, give rise to specific motivational and emotional states that help us cope with and adjust to what is happening. Stimulating one part of the hypothalamus, for instance, increases hunger, while stimulating a different part of the hypothalamus increases satiety (feeling full). Increased neural activity in the anterior insula is necessary for empathy (Gu et al., 2012), while increased neural activity in the dorsolateral prefrontal cortex is necessary to exert self-control over temptation (Hare, Camerer, & Rangel, 2009). It is findings like these that led neuroscientists to map out an understanding of which specific brain structures and pathways are the neural basis of specific motivations and emotions.

NEURAL BASIS OF MOTIVATION AND EMOTION

The brain is astonishingly complex (Bassett & Gazzaniga, 2011). But considered at its most general level, the brain features an outer cortical region and an inner subcortical region, as illustrated in Figure 3.2. The cortical region is sometimes referred to as the cerebral cortex, and it generally includes the bulges and grooves of the frontal, parietal, temporal, and occipital lobes of the brain. The subcortical region is sometimes referred to as the limbic system, and it generally includes the small nuclei that make up the anatomic core or center of the brain.

Cortical Brain

The outer cortical brain—the cerebral cortex (or “cerebrum”)—is the bulging, wrinkled surface that most people think of when they think of the brain. It functions at a conscious, deliberate, intentional, and purposive level (Szpunar, Watson, & McDermott, 2007). As such, the cortical brain is associated with cognitively rich motivations such as goals, plans, strategies, values, and beliefs about the self. The cortical brain is active as you set a goal to make an A on your psychology test, formulate a plan

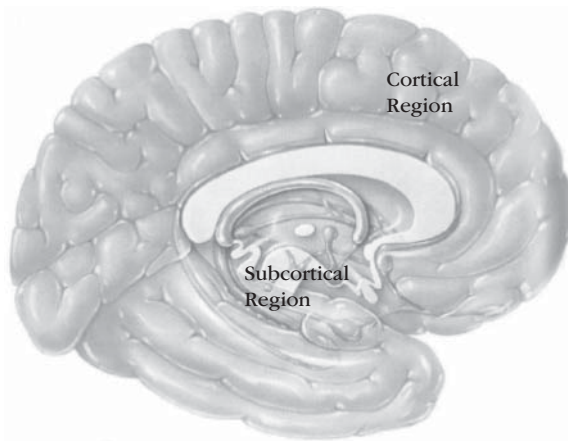


Figure 3.2 Subcortical and Cortical Regions of the Brain

of how you will attain that goal, adopt a strategic decision to read the book chapter on Thursday evening, and exercise the self-control needed to resist the temptation to binge watch Netflix.

Subcortical Brain

The subcortical brain is associated with basic urges and impulses and with emotion-rich motivations such as hunger, thirst, anger, fear, anxiety, pleasure, desire, reward, and wanting. For instance, when you are at the airport and pass by one of those shops selling hot, fresh cinnamon rolls, the alluring aroma stimulates your subcortical brain to rather automatically generate an urge to approach the source of the felt pleasure. These urges and emotions occur regardless of whether you want them to—hence, these motivations are largely unconscious, automatic, urgent, and impulsive.

Bidirectional Communication

The brain features many individual structures, but it is important to note that these individual structures are linked together by a network of neural pathways (i.e., white matter). That is, almost all individual brain structures project out nerve fibers that act as information superhighways to communicate reciprocally with other brain structures. These communication pathways allow the cognitive, motivational, and emotional states that arise in one area of the brain to inform, contribute to, and change the cognitive, motivational, and emotional states that arise in another part of the brain. So, activity in one brain region causes upstream activity in another brain region (“I’m so mad at her, I could yell.”), while activity in the second brain region causes downstream activity to modify the original brain activity (“She probably didn’t do that on purpose. It is no big deal. I’m not so angry anymore.”).

The overall picture of brain function is therefore not one in which individual brain structures are associated with individual functions (e.g., the amygdala does this, the nucleus accumbens does that) but, rather, one of interconnectivity and the brain working in a highly integrated way (O’Doherty, 2004).

Motivational and emotional states can be generated in a “bottom up” fashion as individual brain structures respond to environmental stimuli (sweet taste, having your hand restrained against your will). These motivations are typically generated by the subcortical brain. Similarly, the cortical brain continually exerts “top down” processes (cognitive appraisal of an event, as in “Oh, this

is good news” or “Oh, this is bad news.”) that generate and modify motivational and emotional states. So, in interacting with the world, the subcortical brain generates motivational and emotional states and, in thinking about and making sense of the world and our place in it, the cortical brain generates and modifies motivational and emotional states so that subcortical and cortical brain structures sometimes work together (e.g., “Yes, this is good, let’s do it.”) but other times work in conflict (e.g., we hear the dentist drill and begin to feel some pain coming on, but we nevertheless stay in the chair telling ourselves that our visit is actually a good, not a bad, thing that is happening to us).

Here is an example of bidirectional communication. Imagine seeing a smiling face on a person who is walking toward you and that person is a member of a distrusted out-group (Paulus & Wentura, 2017). The subcortical brain will rather automatically generate approach motivation in response to the smiling face, while the cortical brain will rather reflectively generate avoidance motivation in response to knowledge about what membership in the distrusted out-group means. To experience a coherent motivational–emotional state and to forge a plan of action, there needs to be a great deal of bidirectional communication between the cortical and subcortical brain. So, we scan the person’s face, appearance, and pace for more information, and we scan our memories of what has happened in the past in similar situations, as we try to integrate the conflicting information into a viable plan of action.

Subcortical brain regions concern basic motivational processes (e.g., “Ice cream—I want it!”), while cortical brain regions concern matters such as self-control, resisting temptation, decision making, assessing risk, and self-regulation. The bidirectional forces between basic motivations and cognitive control over these basic motivations and emotions has been termed the dual-process model. Dual-process models are especially informative in understanding motivation, additions, and risk-taking during childhood and adolescence. During childhood, subcortical brain processes (reward-driven affective impulses) tend to dominate the cortical brain and its reflective cognitive capacities, because childhood is an age in which the cortical brain structures are still developing and maturing (Best, Miller, & Jones, 2009; Cragg & Nation, 2008). For instance, adolescents take more risks than do adults, at least in the use of alcohol, tobacco, legal and illegal drugs, dangerous driving, unprotected sex, and criminal behavior (Arnett, 1991). The basic neurological problem underlying adolescent risk-taking is that mature subcortical brain structures are hot and actively involved in decision making, whereas immature cortical brain structures are cold and less actively involved in decision making (Galvan, 2010; Galvan et al., 2006; Somerville, Hare, & Casey, 2010). This research suggests an overall picture in which the affective subcortical brain and the cognitive cortical brain are two interacting systems (i.e., dual processes) that are sometimes in competition and conflict with each other (Gladwin, Figner, Crone, & Wiers, 2011). With greater development and maturation of the cortical brain, children, adolescents, and young adults become increasingly able to control strong motivations and emotional processes (e.g., urges, impulses, addictions) and to delay immediate gratification for the benefit of long-term goals.

INDIVIDUAL BRAIN STRUCTURES INVOLVED IN MOTIVATION AND EMOTION

Sixteen brain structures closely associated with motivational and emotional states are mapped anatomically in Figure 3.3. The figure is the sort of image produced by an MRI or fMRI machine. One structure lies within the brain stem (the final upper portion of the spinal cord)—the reticular formation. Nine structures reside in the subcortical brain—amygdala, ventral striatum, nucleus accumbens, ventral tegmental area, hypothalamus, caudate nucleus, putamen, substantia nigra, and globus pallidus. Six structures reside in the cortical brain—insular cortex, prefrontal cortex, orbitofrontal cortex, ventromedial prefrontal cortex, dorsolateral prefrontal cortex, and anterior cingulate cortex. To complement the anatomical focus of Figure 3.3, Table 3.1 identifies the key motivational and emotional functions associated with each of these 16 brain structures.

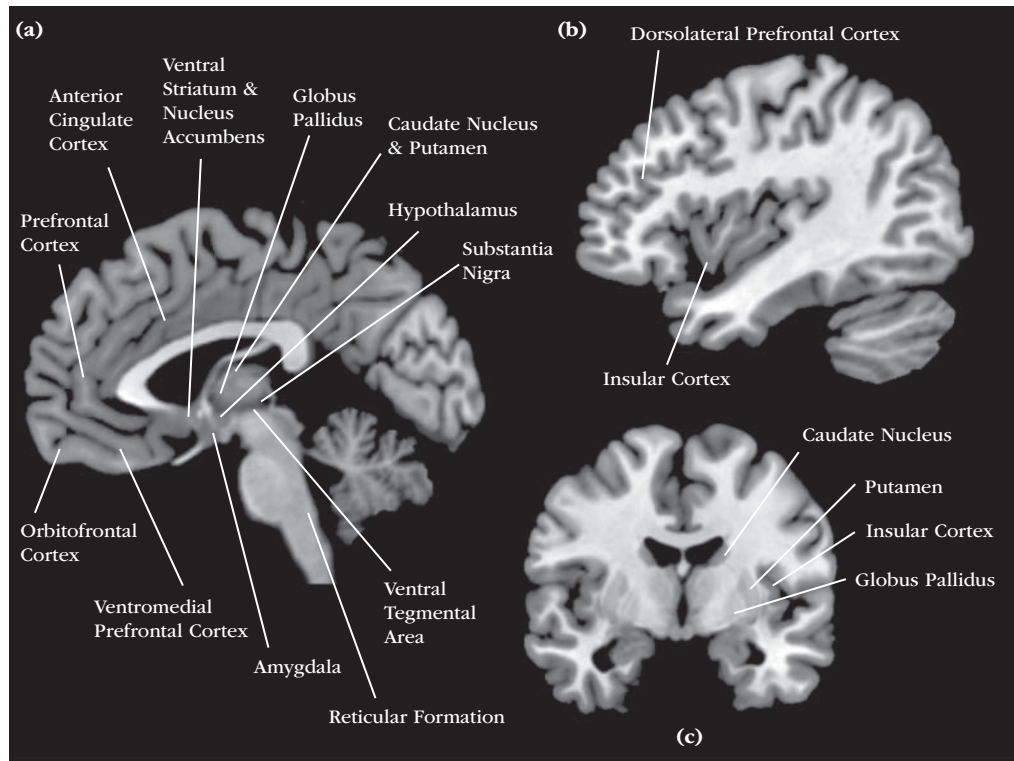


Figure 3.3 Anatomical Locations of the 16 Key Motivation- and Emotion-Related Subcortical and Cortical Brain Structures

Subcortical Brain Structures

Reticular Formation

The reticular formation plays a key role in arousal, alertness, and the process of awakening the brain to process incoming sensory information. The reticular formation is a cluster of neurons within the brain stem about the size of your little finger. It is located at the apex of the spinal cord where the spinal cord ends and the subcortical brain begins. It consists of two parts: the ascending reticular activating system and the descending reticular formation. The reticular activating system projects its nerves upward to alert and arouse the brain, whereas the descending reticular formation projects its nerves downward to regulate the body (e.g., muscle tonus). It is the reticular activating system that wakes, alerts, and arouses the brain to ready it to process the incoming information. Once aroused, the alerted brain processes the incoming information (e.g., makes a decision about what to do) and, a second later, responds with appropriate action and coping.

Amygdala

The amygdala (meaning “almond-shaped”) is a collection of interconnected nuclei associated with emotion and motivation (Baxter & Murray, 2002; McDonald, 1998). One primary function of the amygdala is to automatically and instantaneously detect, learn about, and respond to emotionally significant and aversive events, although each of its different nuclei serves a different function. Stimulation of one part of the amygdala generates emotional anger, while stimulation of another part generates emotional fear and defensive behavior (Bandler, 1988). Also, impairment

Table 3.1 Motivational and Emotional Function of the 16 Specific Brain Structures Featured in Figure 3.3

| Brain Structure | Motivational or Emotional Function |
|--------------------------------|---|
| Subcortical Brain | |
| Reticular formation | Arousal, alertness, wakefulness. |
| Amygdala | Detects, learns about, and responds to the stimulus properties of environmental objects, including both threat-eliciting and reward-eliciting associations. |
| Basal ganglia ^a | Motivational modulation of movement and action. |
| Striatum and nucleus accumbens | The brain's reward center. Responds to signals of reward (dopamine release) to produce pleasure, wanting, liking, and approach. |
| Ventral tegmental area | Starting point in the brain's dopamine-based reward center. Manufactures and releases dopamine. |
| Hypothalamus | Responsive to natural rewards in the regulation of eating, drinking, and mating. Regulates both the endocrine system and the autonomic nervous system. |
| Cortical Brain | |
| Insular cortex (insula) | Monitors bodily states to produce gut-felt feelings. Processes feelings associated with empathy, intrinsic motivation, risk, uncertainty, pain, and personal agency. |
| Prefrontal cortex | Making plans, setting goals, formulating intentions. Right hemispheric activity is associated with negative affect and "no-go" avoidance motivation, while left hemispheric activity is associated with positive affect and "go" approach motivation. |
| Orbitofrontal cortex | Stores and processes reward-related value of environmental objects and events to formulate preferences and make choices between options. |
| Ventromedial prefrontal cortex | Evaluates the unlearned emotional value of basic sensory rewards and internal bodily states. Responsible for emotional control. |
| Dorsolateral prefrontal cortex | Evaluates the learned emotional value of environmental events and possible courses of action. Responsible for control over urges and risks during the pursuit of long-term goals. |
| Anterior cingulate cortex | Monitors motivational conflicts. Resolves conflicts by recruiting other cortical brain structures for executive or cognitive control over basic urges and emotions. |

^aThe basal ganglia include the caudate nucleus, putamen, substantia nigra, and globus pallidus.

of these same amygdala nuclei will produce striking changes, including an overall tameness, affective neutrality, a lack of emotional responsiveness, a preference for social isolation over social affiliation, and a willingness to approach previously frightening stimuli (Aggleton, 1992; Kling & Brothers, 1992; Rolls, 1999). These studies make it clear that one key function of the amygdala is to generate stimulus-emotion associations related to self-preservation, such as fear, anger, and anxiety (Hamann, Ely, Hoffman, & Kilts, 2002). If there is an aversive, emotionally charged stimulus in the environment, the amygdala will detect and respond to it.

The amygdala detects environmental threat and generates threat-elicited defensive responses (Cardinal, Parkinson, Hall, & Everitt, 2002; Gallagher & Chiba, 1996). Fear is the conscious realization of threat-elicited bodily reactions such as heart rate acceleration, muscular tension, behavioral freezing, and "fear face" facial expressions (LeDoux, 2013). As the person encounters and detects a threatening object, amygdala stimulation occurs and activates neighboring brain structures (e.g., hypothalamus, ventral tegmental area) that release neurotransmitters (dopamine, serotonin, norepinephrine, acetylcholine) to instigate and regulate a coordinated defensive response, including rapid breathing (Harper, Frynsinger, Trelease, & Marks, 1984), heart rate acceleration (Kapp et al., 1982), and high blood pressure (Mogenson & Calaresu, 1973), as well as hormonal discharge and emotional facial expressions (Davis, Hitchcock, & Rosen, 1987). What the amygdala does is (1) detect

the aversive characteristics of environmental objects and (b) relay this emotion-laden information to neighboring cortical and subcortical brain regions.

As one point of illustration, a rat with a lesioned amygdala will crawl all over a sleeping cat and even nibble playfully on the cat's ear (Blanchard & Blanchard, 1972). What is missing from the fearless rat is its capacity to generate the hard-wired amygdala-coordinated defensive response. Without an amygdala, the rat lacks the means to respond emotionally to the cat, and it also lacks the capacity to learn to fear the cat when the cat wakes up and poses a threat. When humans have their amygdala removed (to control epileptic seizures, for instance) they become calm, docile, and emotionally indifferent, even in the face of provocation (Aggleton, 1992; Ramamurthi, 1988).

The amygdala processes the aversive and threatening characteristics of all environmental objects, but it has a special skill in detecting the aversive and threatening characteristics within facial displays of emotion (Adolphs, Tranel, Damasio, & Damasio, 1994; LeDoux, Romanski, & Xagoraris, 1989; Rolls, 1999). If another person lowers her brow and presses her lips tightly together (as when angry), the amygdala automatically, effortlessly, and reliably picks up on this threat-eliciting information.

A second primary function of the amygdala is to detect, respond to, and learn about rewarding and beneficial properties of various environmental objects and events (Baxter & Murray, 2002). What amygdala nuclei detect, learning about, and respond to is the presence versus absence of reward, the value or quality of the available reward, the predictability of the reward, and the costs associated with trying to obtain the potential reward (Berridge & Kringelbach, 2008; Whalen, 1999, 2007). These studies make it clear that a second key function of the amygdala is to generate stimulus-emotion associations related to reward. If there is an attractive, emotionally charged stimulus in the environment, the amygdala will detect it, evaluate it, and respond to it.

An example to communicate the overall threat- and reward-detecting function of the amygdala can be illustrated by a person gambling. In gambling tasks, people need to be able to assess risk, weigh the cost and benefits of choices, and cope with changing outcomes and odds on those outcomes. With each win, the amygdala generates positive emotion and relays that positive emotionality to the ventromedial prefrontal cortex so that the person can make an informed judgment about what to do on the next trial, considering the risks, choices, and changing probabilities. Similarly, with each loss, the amygdala generates and relays negative emotion to the ventromedial prefrontal cortex so that the person can again make an informed judgment about future decisions and behaviors. In this case, the amygdala generates the emotional joy of winning and reward and the emotional pain of losing and danger, while the ventromedial prefrontal cortex uses this emotional information to make a judgment about future predicted winning and losing. However, people with damage to their amygdala behave in a bizarre fashion during such a gambling task, because they have no fear of risk and therefore act recklessly (Bechara, Damasio, Tranel, & Damasio, 1996). It is good to know when to hold them and when to fold them, and it is the emotionally rich amygdala—not the rational cortical brain—that knows best when to stay and when to quit.

The amygdala has an interesting anatomical relationship with other brain areas. The amygdala sends projections to almost every part of the brain, although only a small number of projections return information to the amygdala. This imbalance helps explain why emotion, especially negative emotion, tends to overpower cognition more than cognition tends to regulate emotion. Hence, a lot of fear and anger messages get blurted out. This is because amygdala nuclei are mostly evolutionarily old structures that produce primitive emotionality. However, the lateral amygdala nuclei have undergone relatively recent development to forge reciprocal projections and pathways with the cortical brain, especially with the frontal lobes (Cardinal et al., 2002). These evolutionary new pathways allow for some degree of conscious regulation of these biologically basic primitive emotions. The overall picture is one of bidirectional communication, though the amygdala's upstream messages of fear, danger, and reward are stronger and more numerous than are the cortical brain's downstream messages of self-control and reflective thought (e.g., a second opinion on what is happening).

Reward Center: Striatum, Nucleus Accumbens, and Ventral Tegmental Area

The brain's reward center consists of several subcortical brain structures that communicate with each other through the dopamine network. Dopamine is a neurotransmitter that is crucial for motivation and movement. As shown in Figure 3.4, the dopamine network begins with the ventral tegmental area, continues with the striatum and nucleus accumbens, and ends in the basal ganglia to translate reward-based motivation into action.

The striatum consists of the nucleus accumbens, caudate nucleus, and putamen (Liljeholm & O'Doherty, 2012). The activation of the ventral (lower part) striatum is practically synonymous with the experience of reward, or what neuroscientists term the "hedonic evaluation of stimuli." Through their activation, we learn what to like, what to prefer, and what to want (Smith, Tindell, Aldridge, & Berridge, 2009).

Reward is fundamental to motivation. It is fundamental to survival, to learning, to well-being, and to the generation of goal-directed effort (Schultz, 2000). When a person encounters an environmental object (e.g., orange juice), its stimulus characteristics are processed in the amygdala and ventral striatum (sweet taste, cool temperature), and the experience of rewarding and pleasurable feelings occurs in the nucleus accumbens (e.g., "I like it.") (Pecina & Berridge, 2005). The nucleus accumbens is active during the experience of a pleasant taste, a pleasant image, social acceptance, and several addictive drugs (Berridge & Robinson, 1998; Sabatinelli et al., 2007; Wise, 2002).

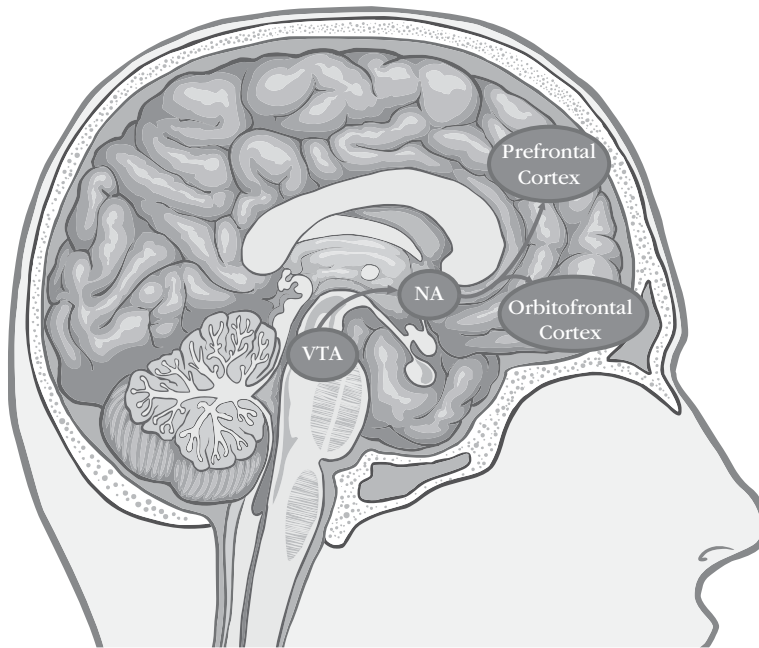
What specifically stimulates the nucleus accumbens to become active—what constitutes "reward-related information"—is the release of the neurotransmitter dopamine (Berridge & Kringelbach, 2008). Once activated by the release of dopamine, the ventral striatum translates the experience of reward into motivational force, approach behavior, and the exertion of physical effort (Pessiglione et al., 2007).

From a neuroscience perspective, reward is dopamine release. As people go about their day, some level of dopamine is always present in the brain. But as people encounter a variety of events, those that signal reward—a pleasant image (looking at a beautiful face), a pleasant taste (sipping sweet juice)—trigger dopamine release (Sabatinelli et al., 2007; Wise, 2002). These triggering events can be natural or learned rewards.

The ventral tegmental area is the manufacturing site for brain dopamine, so it is the starting point in the brain's dopamine-based reward center. The ventral tegmental area projects fibers into the nucleus accumbens that receive dopamine-release information to create the biology (and the experience) of reward. As shown in Figure 3.4, the ventral tegmental area-to-nucleus accumbens pathway extends further upstream into the cortical brain. It is in the prefrontal cortex that the person has a conscious experience of pleasure, and it is the orbitofrontal cortex that stores the learned reward value of environmental objects so that the person will know (will remember) that a particular object has produced rewarding consequences in the past.

Activation of the ventral tegmental area-to-nucleus accumbens dopamine pathway is what allows people to learn the reward value of environmental objects and events. People learn the reward value of any such object or event through stimulus appraisal (amygdala, ventral striatum) and then through extent of dopamine release (ventral tegmental area, nucleus accumbens) (Hampton & O'Doherty, 2007; Hayden, Nair, McCoy, & Platt, 2008; McClure, York, & Montague, 2004; O'Doherty, 2004). The ventral tegmental area also relays reward-related excitatory signals to the basal ganglia, which, in turn, send excitatory signals to initiate motivated action (i.e., approach the reward-related event). Overall, the more dopamine that is released, the greater will be the learning, positive emotion, approach motivation, and effort exertion.

When day-to-day events unfold in ways that are better than expected, the ventral tegmental area releases increased dopamine, and the dopamine surge signals that the event is producing more reward than it was anticipated to deliver. In contrast, when events unfold in ways that are worse than expected, a decreased dopamine release serves as information that a particular course of action is producing less reward than it was anticipated to deliver (Montague, Dayan, & Sejnowski, 1996).



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Figure 3.4 The Dopamine-Based Reward Circuit

The brain's reward system. The dopamine-based reward circuit begins in the ventral tegmental area (VTA) where dopamine is manufactured and then released to the nucleus accumbens (NA). From the NA, the reward center extends into the prefrontal cortex, which is involved in the subjective experience of pleasure, and into the orbitofrontal cortex, which stores the object's learned reward value.

When you anticipate good news or when you anticipate an exciting event, dopamine release occurs. It is not the good news or the event itself that causes the ventral tegmental area to release dopamine but is, instead, the anticipation of rewarding news and the anticipation of a rewarding event. That is, the ventral tegmental area releases dopamine and the nucleus accumbens is activated when we first learn that we are about to receive some money (reward anticipation), not when we actually receive the money (reward receipt). Dopamine release is therefore greatest when rewarding events occur in ways that are unpredicted (“Wow, I’m surprised how nice that flower smells.”) or under-predicted (“Wow, that flower smells much nicer than I thought it would.”) (Mirenowicz & Schultz, 1994). For this reason, we typically experience more pleasure in thinking about eating chocolate chip cookies and about engaging in sex than we do when actually munching on the cookies or engaging in sex. Of course, if things go better than expected during the eating or mating, then the dopamine release continues and so does its corresponding positive feeling and approach motivation.

How the dopamine system contributes into motivated action and how the various brain structures that are central to the dopamine system interact bi-directionally with subcortical and cortical brain structures can be seen in Figure 3.5. The right side of the figure provides a summary of the reward-based network of subcortical structures, while the left side of the figure foreshadows the discussion to come on cortical brain structures and how they contribute into the dopamine-centric reward system.

Pleasure Cycle

The extent of pleasure felt during motivational states rises and falls over time (Berridge & Kringelbach, 2008, 2015). As shown by the solid line in Figure 3.6 (based on Kringelbach & Berridge, 2017), behavior begins with initiation, as we explore for food at the grocery store or look

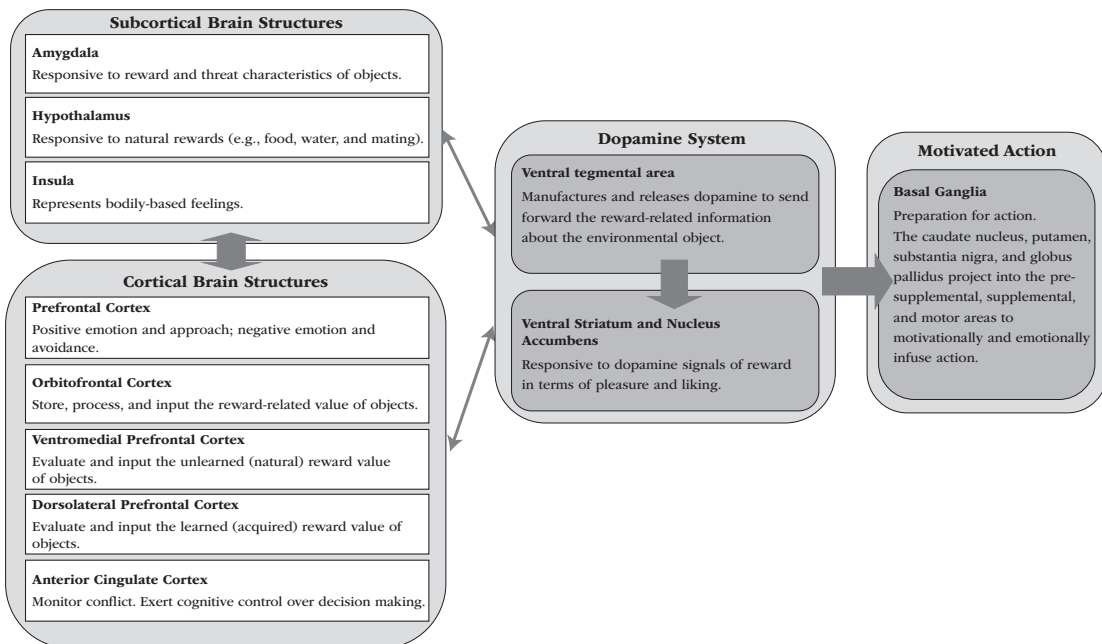


Figure 3.5 Neural Core of Dopamine-Centric Reward-Based Motivated Action

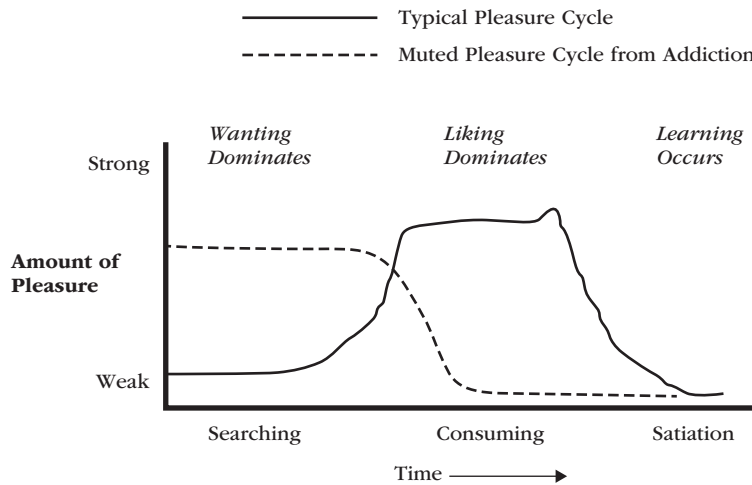


Figure 3.6 The Pleasure Cycle. The solid line represents the typical wanting–liking–learning cycle, while the dashed line represents the muted pleasure cycle dominated only by wanting (without liking and learning)

for someone interesting to talk to at a party. Pleasure is low at this point in the pleasure cycle, while wanting is high. If an attractive stimulus is found, it is consumed. At this point in the pleasure cycle, pleasure and “liking” are high. Finally, consumption of an attractive object produces reward. At this point in the pleasure cycle, liking declines while a strong learning effect is produced (i.e., one learns where the good food and the interesting people are). So, the pleasure cycle is characterized, in order, by wanting, then liking, then learning.

Wanting is a motivational state that comes from an actual need for something (e.g., when dehydrated, people want water). Liking, however, is a motivational state that comes from experiencing pleasure (Berridge & Robinson, 1995). Wanting and liking typically go hand-in-hand (i.e., we want and like the same things), but the two motivational experiences can diverge (Berridge & Robinson, 1998; Dickinson & Balleine, 2002), and this is what typically occurs during addiction. In Figure 3.6, the solid line illustrates the naturally occurring wanting–liking–learning sequence, while the dashed line represents the abnormal loss of liking that typically occurs during an addiction state.

Addiction

At first, smoking a cigarette, eating a sugary donut, or ingesting cocaine produces liking. But, because pleasure is linked to dopamine-release and because dopamine-release occurs mostly with unexpected reward, the liking-associated pleasure associated with the cigarette, donut, or cocaine inevitably fades (because the reward becomes expected, rather than unexpected). At this point, wanting can occur without liking—the person can physiological need (i.e., want) the addictive drug, though it no longer produces pleasure (i.e., liking).

For those dopamine-generating rewards that have addictive properties (e.g., cocaine, heroin, amphetamine, alcohol, and nicotine), the dashed line in Figure 3.6 better represents the muted pleasure cycle. Wanting without liking occurs when the nucleus accumbens becomes hypersensitive to dopamine stimulation (Di Chiara, 1998). When addictive substances are used repeatedly, their liking wears off (reward shifts from unexpected to expected) while the wanting only grows (because the nucleus accumbens becomes hypersensitive to dopamine stimulation). This state of wanting without liking can last for years (Hyman & Malenka, 2001; Robinson & Kolb, 1997).

To help smokers quit the habit, some currently marketed pharmaceuticals block the initial dopamine-related pleasure typically generated by nicotine (e.g., the drug Chantix). These prescription drugs prevent much of the nucleus accumbens-based “liking” (by taking the pleasure out of

nicotine intake). The reason why drugs such as Chantix can be moderately successful is because individuals suffering from addiction often turn to the substance to temporarily boost their positive mood state, especially when under the influence of stress or other such negative affect (Baker et al., 2004; Carmody, Vieten, & Astin, 2007; Valentino, Lucki, & Van Bockstaele, 2010).

This pattern of suffering negative feelings (e.g., stress, loneliness) but looking for a temporary, escape-based boost in positive mood can be seen in drug and alcohol abuse (Baker et al., 2004; Carmody et al., 2007; Holahan et al., 2001; Kassel, 2010), but it can also be seen in gambling, risk-taking, and excessive Internet usage (Griffiths, 2000; Leith & Baumeister, 1996; Valentino et al., 2010; Young, 2004).

One illustration of “excessive Internet usage” can be seen in Facebook usage (Sheldon, Abad, & Hinsch, 2011). “Facebooking” has become near epidemic in college populations (Pempek, Yermolayeva, & Calvert, 2009). College students (and others) log on to this popular social network site because it offers an easy opportunity to experience positive feelings and a sense of connection. But a simulated social experience is not as deeply rewarding as is an actual face-to-face social interaction. What the research shows with frequent Facebook usage (logging on more than twice a day) is that Facebooking does somewhat alleviate negative feelings, but it also paradoxically reduces longer-term positive affect and well-being (because the user experiences fewer face-to-face interactions; Sheldon et al., 2011). Overall, frequent Facebook users may become somewhat “hooked” (addiction is probably too strong a word) on an easily accessible, mild, short-term boost in positive affect that can distract them from negative feelings, and this is especially true for a new user (because the positive affect boosts is new and relatively more unexpected). But Facebooking is problematic as a coping mechanism to negative feelings when the lonely person goes to Facebook to substitute virtual interactions for face-to-face interactions and relationships (Sheldon et al., 2011).

The key condition that generates a deep sense of relatedness satisfaction, social connection, and interpersonal intimacy is how responsive one’s interaction partner is to your needs and concerns (Reis, 2014). For the person looking for deeply satisfying, happy, and rewarding relationships, the place to find these experiences is in the real world and in a relationship partner who cares deeply about, is highly responsive to, and is unconditionally supportive of your welfare.

Motivated Action: Basal Ganglia

The essence of motivation and emotion is energized and persistent goal-directed behavior. Motivated people move and take action. Movement and action flow out of neural activity in the motor cortex. The motor cortex sends “go” signals to the body’s muscles to produce movement. Before such movement occurs, however, the presupplemental and supplemental motor areas first plan, excite, inhibit, and enact these motor commands. The presupplemental and supplemental motor areas, which are located at the very top of the head (where you might pat a young child on the head), largely send the motor instruction to the premotor and motor cortex and are therefore more related to movement and action than they are to motivation and emotion per se.

Basal ganglia (*basal* meaning at the base of the cortex, *ganglia* meaning a group of nerve cells) are a cluster of many different small nuclei in the subcortical brain that collectively provide movement and action with a motivational and an emotional punch. The substantial nigra and globus pallidus motivationally and emotionally prepare action; they make a planned action more or less potent (more or less energized or invigorated). They are active, for instance, for the game show contestant as she eagerly presses the answer buzzer and for just about anyone in pursuit of rewards and gains. The caudate nucleus and putamen give rise to movement intentions and coordinated (rather than conflicted) action. All basal ganglia—substantial nigra, globus pallidus, caudate nucleus, and putamen—are closely connected to and receive information from the cortical areas of the brain (to receive action plans) and to the motor, premotor, supplemental motor area, and presupplemental motor areas (to execute and carry out those action plans). The collective role of the basal ganglia is to energize (or inhibit) those action plans (Pessiglione et al., 2007).

Hypothalamus

The hypothalamus is a small subcortical brain structure that comprises less than 1 percent of the total volume of the brain. Despite its small size, it is a motivational giant.

The hypothalamus exists as a collection of 20 neighboring and interconnected nuclei that serve separate and discrete functions. Through the stimulation of its 20 separate nuclei, the hypothalamus regulates a range of important biological functions, including eating, drinking, and mating (via the motivations for hunger, satiety, thirst, and sex that are the subject of Chapter 4). The hypothalamus is responsive to natural rewards (e.g., food, water, and sexual partners).

The hypothalamus also regulates both the endocrine system and autonomic nervous system. By regulating these two systems, the hypothalamus is able to regulate the body's internal environment (e.g., heart rate, hormone secretion) in order to adapt optimally to the environment (e.g., cope with a stressor).

BOX 3 *How and Why Antidepressant Drugs Alleviate Depression*

Question: Why is this information important?

Answer: To understand how antidepressant drugs alleviate depression.

Each of us wages a lifelong struggle against depression, and about 1 in 10 of us suffers from clinical depression. Disappointment, loss, failure, hassle, financial woe, interpersonal neglect, and social rejection represent the all-too-common flow of human experience. When such events affect us in the moment, we feel sad or distressed. When such events affect us chronically, however, we feel depressed. Aversive, stressful life events affect our bodily biochemistry and, when they deplete our biochemical resources, they can leave us vulnerable to depression.

Depression is a complex psychological disorder associated with the stress of coping and a diminished capacity to experience pleasure, or what clinical psychologists refer to as "anhedonia." Relative to the stress of coping, exposure to uncontrollable stress makes demands on the subcortical brain that can gradually deplete brain serotonin (a neurotransmitter). We need serotonin for the motivation to cope, so serotonin deficiency leaves us vulnerable to depression (Kramer, 1993; Weiss & Simson, 1985). The popular antidepressant drugs (e.g., Prozac, Zoloft, Paxil, Cymbalta, Lexapro) are SSRIs, or selective serotonin-reuptake inhibitors. These antidepressants work on the premise that depression is caused by low turnover in the serotonin pathways. During stressful life events, serotonin is released into the synapse, but it also quickly returns (experiences reuptake) to the sending neuron. To reverse depression, the antidepressant drug prevents serotonin uptake and hence makes serotonin more readily available, as it stays in the synapse area rather than returning (uptake)

to the source from where it came. The antidepressant acts to restore serotonin levels and usage to normal.

Depression is also associated with a diminished capacity to experience pleasure—an inability to experience pleasure and positive feelings for life events. Low dopamine levels can leave the person vulnerable to apathy, boredom, poor concentration, and with little initiative to embrace the day. In contrast, dopamine release generates good feelings, positive affect, and essentially leaves the person primed to a positive mood (Ashby, Isen, & Turken, 1999). Researchers have not been able to produce dopamine-based antidepressive drugs because dopamine decays too rapidly for pharmaceutical usage.

Overall, depression has two faces: serotonin deficiency, which leaves the person less able to cope with life's stress, and dopamine deficiency, which leaves the person less ready to anticipate and experience pleasure. Drugs targeting serotonin and dopamine both unfortunately produce troubling side effects. Antidepressant drugs not only supply serotonin, but they also "hijack" dopamine pathways to some degree and inadvertently blunt feelings of love, romance, and attachment to others (Zhou et al., 2005). Few people taking antidepressants, for instance, have the experience of falling in love. Some addiction-countering drugs (e.g., smoking cessation) blunt dopamine release in general (and not just while taking the addictive substance) and therefore leave the depressed person a bit more vulnerable to suicide. Knowing this, pharmacological researchers are now working on a third alternative: namely, drugs that produce neurogenesis, or the growth of new nerve cells. Sprouting new nerve growth that can generate positive affect is one key biological event that keeps depression at bay.

The hypothalamus regulates the endocrine system by exerting control over the pituitary gland—the so-called master gland of the endocrine (or hormonal) system (Agnati, Bjelke, & Fuxe, 1992; Pert, 1986). Anatomically, the hypothalamus is immediately north of the pituitary gland, and it regulates the pituitary gland by secreting hormones into the tiny capillaries that connect the hypothalamus to the pituitary gland.

The pituitary gland, in turn, regulates the endocrine system. For instance, to increase arousal, the hypothalamus stimulates the pituitary gland to send hormones through the bloodstream to stimulate the adrenal glands to release its own hormones (epinephrine, norepinephrine) into the blood stream that trigger various bodily organs to initiate the well-known “fight-or-flight” response. A later section in this chapter (“Hormones”) will explain how the hypothalamus regulates both the pituitary gland and the stress hormone of cortisol (see Box 3).

The hypothalamus also controls the autonomic nervous system (ANS), which includes all neural innervations into body organs that are under involuntary control (e.g., heart, lungs, liver). It is divided into the excitatory sympathetic system that accelerates bodily functions and alerts the body (as through an increased heart rate) and the inhibitory parasympathetic system that facilitates rest, recovery, and digestion. Therefore, the autonomic nervous system begins at the hypothalamus (the hypothalamus is the autonomic nervous system’s head ganglion, or starting point) and extends its nerves throughout the body to generate both arousal (sympathetic activation) and recovery (parasympathetic activation).

Cortical Brain Structures

Insula

The insula is a rather large and highly interconnected structure that lies deep within the brain. Anatomically, it is the fold that lies between the posterior part of the frontal lobe and the anterior part of the temporal lobe and also just above the subcortical brain (see Figure 3.3, image c).

The insular cortex (or insula) consists of two roughly equal halves—an anterior and a posterior part. The posterior insula receives, monitors, and becomes aware of changes in bodily states such as changes in heart rate, fatigue, temperature, touch, muscle tone, arousal, and cravings (Craig, 2003, 2009). It is more aligned with the subcortical brain, as many of these bodily based states lie beneath conscious awareness. The anterior insula monitors, evaluates, and consciously represents (becomes aware of) the subjective feelings that arise from these changes in bodily states. Hence, the anterior insula monitors and becomes aware of “gut” (bodily based) feelings. It is more aligned with the cortical brain.

The insula processes interoceptive information about the state of one’s body (visceral, homeostatic), and it therefore allows the person to mentally construct a consciously aware representation of how he or she feels (Craig, 2009; Wicker et al., 2003). When people have “a feeling about that thing” (e.g., this person is untrustworthy, my homework is boring, class is enjoyable), it is activity in the anterior insular cortex that gives rise to this feeling. So, the first key function of the insula is to receive, process, and allow the person to become aware of “raw feelings,” gut-felt feelings, and intuitive hunches (e.g., “women’s intuition”).

Pain is one bodily feeling experience that the insular monitors, but insular activity seems to be involved in practically all subjective feelings (Craig, 2009), including not only negative feelings but positive feelings as well (Gu et al., 2013). The right anterior insula processes “energy-consuming” negative emotions (e.g., pain, disgust, anger, fear), while the left anterior insula processes “energy-nourishing” positive emotions (e.g., pleasure, happiness, satisfaction) (Craig, 2011). It is also in the anterior insula that people consolidate their internal bodily feeling state information with external social-contextual information about the task they are involved in at the moment and the

social context in which they are in to form a basis of the conscious experience of emotion or affect during that task (Craig, 2002, 2009).

The anterior insula is the key brain structure involved in intrinsic motivation (Lee & Reeve, 2017). The opposite of intrinsic motivation, which is extrinsic motivation, is the seeking and consuming of environmental rewards (e.g., food, money, social approval), and extrinsic motivation is well explained by the striatum-based reward center depicted in Figure 3.4. In contrast, intrinsic motivation arises from “intrinsic rewards,” such as subjective feelings of interest and enjoyment (Lee, 2017). These intrinsic rewards are the “spontaneous satisfactions” one feels while engaged in a task (e.g., satisfaction from a job well done), and it is this sense of task-generated satisfaction that allows the activity to be experienced as interesting, enjoyable, and fun. These intrinsic satisfactions are generated by the anterior insula (see the left side of Figure 3.7). As shown on the right side of Figure 3.7, when people engage in intrinsically motivating activities, the more “intrinsic satisfaction” they feel, the more they will show high levels of anterior insula activity (Lee & Reeve, 2013). What this means is that when a person engages in a task “for fun” or “because it is interesting,” the task creates anterior insular stimulation that generates a sense of satisfaction.

We will discuss intrinsic motivation in detail in Chapters 5 and 6, but the important point to make here is that when one’s engagement in a task allows the person to feel curious, competent, autonomous, or relatedness, it is activity in the anterior insula that is generating these feelings of intrinsic reward.

The anterior insula is not only involved in the processing of one’s own feelings, but it is also involved in the processing of the feelings of others. The anterior insula is the key brain structure involved in empathy, which is the ability to perceive and share another person’s emotional state (Gu et al., 2012). If you see another person in pain, you too will feel that pain, at least to the extent that anterior insula activity occurs while you are observing the other’s pain. If anterior insula activity does not occur while you observe another in pain, then you will likely not experience empathy for that other person. That is, anterior insula activity is necessary for an experience of empathy (Gu et al., 2012). This finding has led to some interesting speculation that a key neurological deficit of people who lack a capacity for empathy is an insensitive or a damaged anterior insula—for instance, people with autism, conduct disorder, or borderline personality disorder.

The insula also processes and learns about risk and uncertainty (Huettel, Stowe, Gordon, Warner, & Platt, 2006; Kuhnen & Knutson, 2005). This is important because the role of the insula seems to be to integrate current feelings, a risk prediction forecast (that always has a degree of uncertainty associated with it) that arises from considering the consequences of one’s actions, and contextual

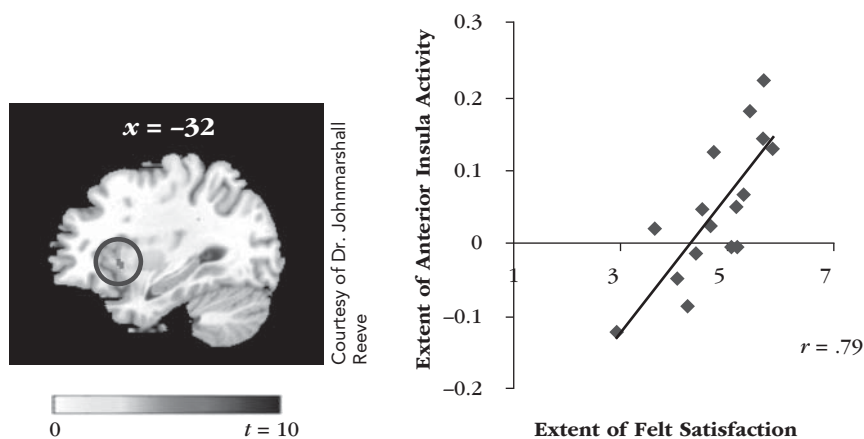


Figure 3.7 Anterior Insular Activity Correlates with Extent of Task-Generated Satisfaction

information to produce a global feeling state that guides decision making (Singer, Critchley, & Preuschoff, 2009). Much of that global feeling state exists as anxiety (Paulus & Stein, 2006). The decision to trust another person, for instance, is one such instance of subjective feelings, risk, uncertainty, considering the consequences of one's actions, and decision making. When a generally cooperative person begins to act in a way that seems exploitive or untrustworthy (recall the chapter's opening vignette), insular activity occurs. The person picks up on social-contextual cues to experience a gut-felt feeling that "something is not right." This feeling then enters into the decision-making process whether to continue to trust that person. This same anterior insular activity occurs during financial decision making as well, as in judging the risk and uncertainty of an investment (Kuhnen & Knutson, 2005).

The insula is also responsible for a feeling of "self" and a sense of having a boundary that allows for an intuitive distinction between me (self) and others (not self). Insular activity is also responsible for an intuitive distinction between "action caused by me" and "action not caused by me" (Farrer et al., 2003; Farrer & Frith, 2002). In an experiment, a participant will be asked to perform a simple action (e.g., move a joystick), while the experimenter manipulates what happens when the person performs that simple action. In one case, the participant's action will cause a consequence (moving the joystick makes an image appear on screen), but in another case the consequence will occur at random (when the image appears is controlled by the experimenter, not the participant). In the first case, the person will show insular activation and will experience "self-as-cause." In the second case, the person will not show insular activation and will experience "other-as-cause." Hence, anterior insular activity during action increases an experience of personal agency (Lee & Reeve, 2013). Personal agency (I can change my environment in an intentional way) is fundamentally important to motivation, because people are volitionally motivated to act when they feel "self-as-cause," because they believe their actions produce desired effects, but people are not so volitionally motivated to act when they feel "other-as-cause" (Bandura, 2006). With "self-as-cause" personal agency, people willingly act on their environmental surroundings to change things for the better, but with an "other-as-cause" lack of personal agency, people withhold effort because it seems rather pointless.

Prefrontal Cortex

The prefrontal lobes of the cerebral cortex lie immediately behind the forehead. One lobe is on the right side of the brain (right prefrontal cortex), while the other is on the left side of the brain (left prefrontal cortex). Together, these two cortical lobes underlie many important motivations, including affect, goals, and personal strivings.

The starting point for many (but not all) negative emotions is the amygdala, while the starting point for many (but not all) positive emotions is the dopamine-network (ventral tegmental area and nucleus accumbens). The phrase "but not all" is important, because emotions also arise from cortical processes such as thoughts, appraisals, and goals.

The right lobe of the prefrontal cortex generates negative emotion and "no-go" avoidance motivation, while the left lobe of the prefrontal cortex generates positive emotion and "go" approach motivation (Davidson, 2004). If you watch a film clip showing puppies and babies (to induce positive emotion), you will show greater left than right prefrontal cortex activity; but if you watch a film clip showing heartache and suffering (to induce negative emotion), you will show greater right than left right prefrontal cortex activity (Fischer et al., 2002). This leads to an important conclusion about the role of the prefrontal cortex in emotion: Left activations signal positive emotion and approach motivation; right activations signal negative emotion and avoidance emotion (Davidson, 2012). More specifically, left prefrontal cortical activity is associated with parasympathetic nervous system activity, calmness, positive emotionality, approach motivation, and group-oriented desires such as affiliation, while right prefrontal cortical activity is associated with sympathetic nervous

system activity, arousal and danger, negative emotionality, and individual-oriented desires such as personal protection.

Asymmetry in the prefrontal lobes leads to two interesting findings. The first is that people generally have greater activity in one lobe than in the other. This is assessed with EEG recordings when the person is in a resting state. People with relatively greater left asymmetry (the left prefrontal cortex is chronically more active than is the right prefrontal cortex) tend to engage in approach-oriented behaviors such as reward-seeking, impulsivity, and aggression-dominance; people with relatively greater right asymmetry tend to engage in avoidance-oriented experiences such as fear, depression, and internalization symptoms (Davidson, 2004; Harmon-Jones, 2003). The second is that prefrontal cortex asymmetry can not only be trait-like (as above), but it can also be manipulated and hence state-like. People who squeeze a rubber ball with their right hand for a couple of minutes, for instance, will show greater left prefrontal lobe activity and report a more positive mood, while people who squeeze a rubber ball with their left hand will show greater right prefrontal lobe activity and report a more negative mood (Harmon-Jones, 2006; Harmon-Jones, Gable, & Peterson, 2010).

The prefrontal cortex houses a person's conscious goals (Miller & Cohen, 2001). Thoughts, intentions, goals, and strivings that stimulate the left prefrontal cortex generate positive and approach-oriented feelings, whereas thoughts, intentions, goals, and strivings that stimulate the right prefrontal cortex generate negative and avoidance-oriented feelings (Gable, Reis, & Elliot, 2000). The associated positive versus negative emotion then colors which goals and strivings the person does and does not pursue. The right prefrontal cortex is a cortical bathtub of negative emotion in which thoughts, goals, intentions, memories, and personal strivings bathe as they ready themselves for action—which usually takes the form of anxiety, caution, pessimism, and, hence, avoidance, while the left prefrontal cortex is a cortical bathtub of positive emotion in which thoughts, goals, intentions, memories, and personal strivings bathe as they ready themselves for action—which usually takes the form of hope, eagerness, optimism, and, hence, approach.

Because different people show different levels of sensitivities to process information in their right versus left prefrontal cortex, it means that biologically basic personality differences exist between people that open them up to optimism, positive emotionality, and approach motivation in their day-to-day thinking and planning (people with more sensitive left prefrontal lobes), while other people are open or vulnerable to pessimism, negative emotionality, and avoidance motivation in their day-to-day thinking and planning (people with more sensitive right prefrontal lobes; Gable et al., 2000). An active and sensitive left prefrontal cortex provides the person with a behavioral activation system (BAS), which is similar to extraversion, while an active and sensitive right prefrontal cortex provides the person with a behavioral inhibition system (BIS), which is similar to neuroticism (Carver & White, 1994).

To get an idea for these two neurologically based dimensions of personality, consider your own reactions to these questionnaire items to assess a tendency toward the BAS:

- When I get something I want, I feel excited and energized.
- When good things happen to me, it affects me strongly.
- I crave excitement and new sensations.

Similarly, consider your own reactions to these questionnaire items to assess a tendency toward the BIS:

- If I think of something unpleasant is going to happen I usually get pretty “worked up.”
- Criticism or scolding hurts me quite a bit.
- I feel worried when I think I have done poorly at something.

The correlation between people's scores on the BAS and BIS questionnaires and their prefrontal lobe asymmetry (as measured by an EEG) is important because the extent of people's asymmetry

corresponds to their typical emotionality (BAS versus BIS; Sutton & Davidson, 1997). People who score high on BAS items show greater left-side asymmetry, and because of this they show a greater personality or trait-like sensitivity to reward, eagerness, positive emotion, approach motivation, and approach-oriented behaviors. People who score high on BIS items show greater right-side asymmetry, and because of this they show tend to be overly sensitive to punishment, anxiety, negative emotion, avoidance motivation, and avoidance-oriented behaviors.

Orbitofrontal Cortex

The orbitofrontal cortex lies anatomically beneath the prefrontal cortex, just above the eyes. Anatomically, it is the floor of the prefrontal cortex. It is the cortical brain structure that stores and processes reward-related information about environmental objects that helps people formulate their preferences and make their choices between options, such as which product to buy or whether to drink orange juice or water (Dickinson & Balleine, 2002; O'Doherty, 2004). The orbitofrontal cortex has a direct connection with the subcortical brain's reward center (the orbitofrontal-striatal circuit) that allows it to receive reward-related information from the striatum and, once received, people can remember the reward value associated with the objects, events, and options they encounter and reencounter.

As we make our way through the day and compare the incentive (or reward) value of the possible objects and events that might guide our behavior, some objects and some events attract our attention and serve as attractive incentives to our actions. In a demonstration of the orbitofrontal cortex's role in valuing objects, researchers monitored participants' brains while they looked at a menu and selected their order. The orbitofrontal cortex is active when people considered their options, remembered what on the menu was good and what was not, and made their selection among the different environmental objects (menu items) to pursue (Arana et al., 2003).

The orbitofrontal cortex also inhibits inappropriate actions. It is central to the ability to delay gratification, which is essentially quieting the urge for an immediate reward in favor of a more advantageous or larger delayed reward. This is a very important capacity, because most long-term plans involve the ability to put aside those things that are immediately attractive (listen to music, get something to eat, turn on the TV) in favor of those things that are part of a longer-term strategy to accomplish goals and complete projects. That is, basic motivations and emotions (e.g., urges, drives, desires) arise from the subcortical brain and are typically automatic and unconscious—you smell fresh coffee brewing and you want it. But the orbitofrontal cortex has dense neural connections into the subcortical brain that allow it to exert self-control (or willpower) over these urges and impulses for immediate action. It is important to note that this orbitofrontal–subcortical brain communication system is reciprocal (two-way or bidirectional), because sometimes urges and emotions need to take precedent over conscious planning, as we do sometimes need to listen to our fears, sense of disgust, and seize on an unexpected opportunity, although we more often need to quiet those urges and desires to focus our attention and behavior away from such distractions and toward our long-term goal pursuits.

Ventromedial Prefrontal Cortex

The ventromedial prefrontal cortex groups together a set of interconnected cortical brain areas that integrate affective-based information from sensory and social cues (Roy, Shohamy, & Wager, 2012). It represents the affective qualities (or value) of basic sensory rewards, such as tastes, and it is constantly updating affective representations of internal bodily states. If a stimulus is inherently appealing (has value), such as a smiling face or a candy bar when one is hungry, extent of ventromedial prefrontal cortex activity correlates rather well with how attractive, valuable, or tempting we find that object to be (Grabenhorst & Rolls, 2011).

In clinical cases in which the person's ventromedial prefrontal cortex has been damaged (e.g., from a stroke), these individuals show emotional impairments and destructive social judgments

(Damasio, 1994, 1996). This is because the ventromedial prefrontal cortex works for cognitive valuing and revaluing of emotional inputs that lead to effective decision making (Davidson & Irwin, 1999; Ochsner & Gross, 2005).

The neural connections between the ventromedial prefrontal cortex and subcortical brain are both dense and bidirectional, just as was the case with the orbitofrontal cortex. This two-way communication allows conscious thought to modulate and control emotion, but it also allows emotion to inform beliefs, judgments, and decisions. Hence, via its input from the emotion-laden subcortical brain, the ventromedial prefrontal cortex integrates emotional information with cognitive and social judgments, including what the person believes to be true (social judgment) and whether the person believes something is right or wrong (moral judgment) (Cunningham & Zelazo, 2007). The ventromedial prefrontal cortex also receives input from the insula, which can add emotional disgust to intuitively sway what is believed toward what is not believed. For instance, it is hard to believe that a food is edible or that a person is trustworthy if either creates a gut feeling of disgust within you.

Dorsolateral Prefrontal Cortex

While the ventromedial prefrontal cortex evaluates the emotional value of basic sensory (unlearned or natural) rewards, the dorsolateral prefrontal cortex evaluates the learned emotional value of environmental events and possible courses of action. If someone were to ask you to take a sip of Coca-Cola and evaluate it emotionally in terms of likes and preferences, you would taste the sensory properties of the drink in the ventromedial prefrontal cortex, but you would also “taste” and evaluate the Coca-Cola brand itself in the dorsolateral prefrontal cortex. The idea is that we have a great deal of learned emotional value and meaning for the objects and events around us, and these emotional memories are largely stored in the dorsolateral prefrontal cortex. When it comes time to make a decision (e.g., What should I buy at the store?), we access this stored environmental information from the dorsolateral prefrontal cortex to help us make an emotionally informed decision.

Optimal decision making requires self-control and the dorsolateral prefrontal cortex. The dorsolateral prefrontal cortex is involved in the effort to resist temptation during the pursuit of long-term goals (especially the right dorsolateral prefrontal cortex; Knack & Ernst, 2007). Sometimes, we find ourselves offered an indulgent temptation or a risky opportunity, and neural activity in the dorsolateral prefrontal cortex contributes important inhibitory forces during decision making. Basically, the opposite of urge-based (subcortical) risk-taking is (cortical) self-control. Dorsolateral prefrontal cortex activations occur (to signal that self-control is occurring) when a person pursues a long-term reward in favor of a short-term ventral striatum-based reward (McClure, Laibson, Lowenstein, & Cohen, 2004).

Consider the following experiment that involved people on a diet (Hare, Camerer, & Rangel, 2009). Dieters were shown photographs of various foods, such as an apple and a candy bar. They were asked to rate how healthy and how tasty each food was for them. When participants rated how tasty the food was, ventromedial prefrontal cortex activity predicted the “how tasty?” rating. When participants rated how healthy the food was, dorsolateral prefrontal cortex activity predicted the “how healthy?” rating. When participants made an actual food choice, the successful dieters showed strong dorsolateral prefrontal cortex activity, which meant that they exercised self-control and considered both the food’s taste and its health properties. The unsuccessful dieters did not show this same dorsolateral prefrontal cortex activity, which shows that they did not exercise self-control and considered only the food’s rewarding taste. This study showed that strong dorsolateral prefrontal cortex activity dampened down the extent of activity (extent of temptation) participants experienced in the ventromedial prefrontal cortex (Hare et al., 2009). This is a clear example of what was referred to earlier in the chapter as bilateral communication (i.e., the dorsolateral prefrontal cortex calms down ventromedial prefrontal cortex stimulation). Hence, the dorsolateral prefrontal cortex is responsible for the deployment of self-control.

Activity in the dorsolateral prefrontal cortex is also important to keep us from acting selfishly, because it inhibits our urge for self-interest and therefore contributes positively to harmonious social interactions (Knock & Ernst, 2007). Because of right dorsolateral prefrontal cortex activity, we can constrain our pursuit of self-interest and make decisions based on our emotional value for social concerns, such as fairness, equality, and equity (as in the chapter's opening vignette). Hence, part of our socioemotional competence lies in right dorsolateral prefrontal cortex activations.

Anterior Cingulate Cortex

There is a lot of conflict in the brain. People wonder “Should I choose this, or should I choose that? Should I take the immediate reward, or keep working for a later but larger reward? Should I approach, or should I avoid?” It therefore makes sense that part of the cortical brain exists to make these judgment calls. That part of the brain is the anterior cingulate cortex, a mid-frontal cortical brain area that lies above or north of the subcortical brain. It is involved in prioritizing attention, monitoring conflict, making choices, making decisions, predicting the consequences of actions, and alerting other brain areas to the need for increased cognitive control to resolve conflict.

In its role as the brain's information-processing conflict detector, the anterior cingulate cortex signals and recruits other cortical brain areas to help it to resolve conflict and to exert greater cognitive control. It uses information gained from these other cortical brain structures to select appropriate action, although it also receives information from the subcortical brain to guide decision making and action selection (Bush et al., 2002; Matsumoto et al., 2003). The anterior cingulate cortex also evaluates the extent of mental effort required on a task, because cognitive conflict is a good indicator of task difficulty (Walton, Bannerman, Alterescu, & Rushworth, 2003). Overall, the anterior cingulate cortex provides “top-down” executive or cognitive control over decision making, goal pursuit, and action.

The core function of the anterior cingulate cortex is to monitor conflicts in information processing and, when conflicts arise, to trigger an increased allocation of cognitive resources, such as attention and decision making, to resolve those conflicts in ways that are favorable to one's goals (Botvinick, Cohen, & Carter, 2004; Botvinick, Braver, Barch, Carter, & Cohen, 2001; Van Veen, Cohen, Botvinick, Stenger, & Carter, 2001). For instance, it is in the anterior (and posterior) cingulate cortex where people consciously and deliberately undertake a cost-benefit analysis as to whether a goal or a possible course of action has enough reward value associated with it to warrant an investment of effort (Hayden et al., 2008).

HORMONES

The nervous system uses neurotransmitters (e.g., dopamine) for communication among brain structures. Alternatively, the endocrine system uses hormones flowing through the bloodstream to communicate among bodily organs, such as the heart, kidney, and pancreas. While many hormones are important to motivation and emotion, we highlight these three: cortisol, oxytocin, and testosterone. Other hormones are integral to basic biological motivations such as hunger and thirst, and these hormones will be featured in Chapter 4.

Cortisol

Cortisol is the so-called stress hormone. Cortisol is a hormonal product of the reactivity of the hypothalamic-pituitary-adrenocortical system (Dickerson & Kemeny, 2004; Stansbury & Gunnar, 1994; Susman, 2006). In response to stressful events, subcortical brain structures (e.g., the amygdala) stimulate the hypothalamus to stimulate the pituitary gland, which leads the adrenal gland to increase cortisol production and release it into the bloodstream. Cortisol activation occurs during social-evaluative threats (e.g., public speaking), relationship conflict (Powers, Pietromonaco, Gunlicks, & Sayer, 2006), and being interpersonally controlled (Reeve & Tseng, 2011) or devalued/rejected (Stroud, Salovey, & Epel, 2002). Cortisol deactivation (distress) occurs

during social support (Kirschbaum, Klauer, Filipp, & Hellhammer, 1995; Reeve & Tseng, 2011; Taylor et al., 2010).

Generally speaking, cortisol reactivity serves a short-term adaptive function, as it mobilizes attention and energy in response to a social evaluative threat (Dickerson & Kemeny, 2004). Longer-term, however, chronic cortisol reactivity (repeated hypothalamic–pituitary–adrenocortical system activation, as from long-term exposure to a conflictual relationship) takes a cumulative toll on the body, a phenomenon termed “allostatic load” (McEwen, 1998). Cortisol-induced allostatic load puts the individual at risk of negative biological outcomes such as diabetes and hypertension, but it has further been linked to maladaptive cognitive outcomes, such as poor memory, impaired problem solving, and poor intellectual functioning (Brown & Suppes, 1998; Kirschbaum et al., 1996).

Oxytocin

Oxytocin is known as the bonding hormone. Oxytocin release supports the “tend and befriend stress response” that helps explain why people seek counsel and confide in friends during the stressful events in their lives. Oxytocin increases the salience or attention-getting qualities of social-interpersonal cues, such as emotion recognition and empathy (Bartz, Zaki, Bolger, & Ochsner, 2011), and it is associated with social engagement and the seeking of sociability that can calm and suppress arousal, stress, and depression (Heinrichs, Bumgartner, Kirschbaum, & Ehlert, 2003).

Oxytocin also raises levels of trust in others (Campbell, 2010; Kosfeld et al., 2005). Oxytocin supports the formation and maintenance of attachment bonds among people (Lim & Young, 2006), and it boosts social behaviors such as trusting others, being generous, sharing resources, and being cooperative (Kosfeld et al., 2005; Zak et al., 2007). The tend-and-befriend coping response can be highly effective during times of stress (compared to the well-known “fight-or-flight” coping response) as people seek the counsel, support, and nurturance of others. It is the hormone of oxytocin that underlies this tend-and-befriend coping response during times of stress, and this hormone also supports attachments and bonds with those who are befriended (Feldman, Weller, Zagoory-Sharon, & Levine, 2007; Pedersen, 2006).

One interesting feature of oxytocin is that it can be delivered to a person via the squirt of a nasal spray. In experiments in which people in the experimental condition received an intranasal oxytocin administration while people in the control condition receive only a placebo, those in the experimental group showed significant increases in postspray trust, cooperation, eye contact, empathy, and social bonding (Declerck, Boone, & Kiyonari, 2010; Guastella, Mitchell, & Dadds, 2008; Kosfeld, Heinrichs, Zak, Fischbacher, & Fehr, 2005; Van IJzendoorn & Bakermans-Kranenburg, 2012).

Testosterone

The steroid hormone of testosterone is associated with high competition, status-seeking, and sexual motivation (Bancroft, 2002). High testosterone encourages competition. For instance, high testosterone levels help Wall Street stockbrokers make more money (compete better) during the day’s trading. More specifically, high testosterone is associated with status-seeking behavior (winning a competition), and it is most strongly associated with status-seeking behaviors after social status has been questioned or threatened (after losing a battle or competition for social dominance) (Josephs, Newman, Brown, & Beer, 2003; Josephs, Sellers, Newman, & Mehta, 2006). Testosterone also underlies the mating effort—the investment of time and energy into same-sex competition and mate-seeking behavior (Ellison, 2001). Unmarried men, for instance, have higher testosterone levels than do married men (Gray et al., 2004); men who are not in a committed relationship have higher testosterone levels than do men who are in a committed relationship (Burnham et al., 2003); and men who are not fathers have higher testosterone than do men who are fathers (Gray et al., 2002). High levels of testosterone are also associated with having affairs, while low levels are associated with better parenting (e.g., higher nurturance).

SUMMARY

When thinking about the brain, most people focus on its cognitive and intellectual functions, including thinking, learning, and problem-solving. But it is more—it is also a motivated and emotional brain. It generates wants, appetites, urges, needs, reward, cravings, desires, pleasure, feelings, mood, fear, anxiety, anger, and the full range of the emotions. The neuroscience of motivation and emotion focus on understanding how environmental objects and day-to-day event activate specific brain structures and how these brain structures, in turn, are associated with the motivational and emotional states that energize, direct, and sustain behavior.

At a general level, the motivated and emotional brain consists of an outer cortical brain and an inner subcortical brain. The subcortical brain is associated with basic urges and impulses and with emotion-rich motivations such as hunger, thirst, anger, fear, anxiety, pleasure, desire, reward, and wanting. These urges and emotions are largely unconscious, automatic, and impulsive. The cortical brain is associated with cognitively rich motivations such as goals, plans, strategies, values, and beliefs about the self. The mental events are largely conscious, deliberate, and revolve around cognitive or executive control. Both the cortical and subcortical brain features many individual structures, but it is important to note that these individual structures are linked together by a network of neural superhighways to communicate reciprocally with each other. The overall picture of brain function is therefore not one in which individual brain structures are associated with individual functions (e.g., the amygdala does this, the nucleus accumbens does that) but, rather, one of interconnectivity and the brain working in a highly integrated way.

Nine subcortical brain structures are closely involved in motivation and emotional states. The reticular formation regulates arousal, alertness, and the neural process of awakening the brain's motivational and emotional concerns. The amygdala detects, learns about, and responds to the stimulus properties of environmental objects, including both threat-eliciting and reward-eliciting associations. The basal ganglia (caudate nucleus, putamen, substantia nigra, and globus pallidus) contribute to the motivational invigoration and inhibition of movement and action. The ventral striatum (nucleus accumbens) and ventral tegmental area constitute the brain's reward center. The ventral tegmental area manufactures and releases dopamine that is received by the nucleus accumbens to produce pleasure and liking. The hypothalamus is responsive to natural rewards in the regulation of eating, drinking, and mating, and it also regulates both the endocrine and autonomic nervous systems.

Six cortical brain structures are closely involved in motivation and emotional states. The insula monitors bodily states to produce both positive and negative gut-felt feelings, and it also processes feelings associated with risk, uncertainty, intrinsic motivation, empathy, and personal agency. The prefrontal cortex is involved in making plans, setting goals, formulating intentions. Right hemispheric activity is associated with negative affect and “no-go” avoidance motivation, while left hemispheric activity is associated with positive affect and “go” approach motivation. The orbitofrontal cortex stores and processes reward-related values of environmental objects and events to formulate preferences and make choices between options. The ventromedial prefrontal cortex evaluates the unlearned emotional value of basic sensory rewards and internal bodily states and is responsible for emotional control. The dorsolateral prefrontal cortex evaluates the learned emotional value of environmental events and possible courses of action, and it is responsible for control over urges and risks during the pursuit of long-term goals. The anterior cingulate cortex monitors motivational conflicts. It resolves those conflicts by recruiting other cortical brain structures to exert cognitive control over basic urges and emotions.

While the nervous system relies on neurotransmitters to communicate among brain structures, the endocrine system relies on hormones flowing through the bloodstream to communicate between bodily organs, such as the heart. While many hormones are important for motivation and emotion, cortisol, oxytocin, and testosterone are particularly important. Cortisol produces an energized

stress response when the person is exposed to a social-evaluative threat, such as public speaking or relationship conflict. Oxytocin produces an affiliation-based tend-and-befriend stress response when people seek counsel and confide in friends during the stressful events in their lives. Testosterone produces competitive status-seeking behaviors, such as when a man's social status has been questioned or threatened.

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Part One

Needs

Physiological Needs

NEED

- Three Types of Needs

FUNDAMENTALS OF REGULATION

- Physiological Need
- Psychological Drive
- Homeostasis
- Negative Feedback
- Multiple Inputs/Multiple Outputs
- Intraorganismic Mechanisms
- Extraorganismic Mechanisms
- Homeostatic Mechanism

THIRST

- Physiological Regulation
 - Thirst Activation
 - Thirst Satiety
 - Hypothalamus and Kidneys
- Environmental Influences

HUNGER

- Short-Term Appetite
- Long-Term Energy Balance
 - Set-Point Theory
- Environmental Influences
- Self-Regulatory Influences
 - Cognitively Regulated Eating Style
 - Restraint-Release Situations
- Weight Gain and Obesity
- Comprehensive Model of Hunger

SEX

- Physiological Regulation
- Facial Metrics
- Sexual Scripts
- Sexual Orientation
- Evolutionary Basis of Sexual Motivation

SUMMARY

READINGS FOR FURTHER STUDY

You see an advertisement recruiting volunteers for a new reality show: *Willpower!* The new reality show promotes itself with the tagline: “Are you mentally tough?” You’re mentally tough, so you sign up as a contestant. During episodes 1–4, contestants face the challenge to gain 10 percent of their body weight. Piece of cake—literally. After all, that is what Renee Zellweger basically did for those *Bridget Jones’s Diary* movies.

At first, all goes well with challenge 1, as you gain 4 pounds in week 1 and 2 more in week 2. By week 3, however, your appetite wanes. Your body seems to be putting up defenses to counter the weight gain. As you look at your dinner, you just don’t feel the same. The food is not that appealing, and you are surprised by how uncomfortable you feel as you eat the meal. Your active lifestyle has slowed to a sedentary pace, as you exercise less and use elevators more. It becomes increasingly difficult to gain another pound, let alone the 9 still needed to achieve your 10 percent increase. Still, by episode 4, you gain the 10 percent and prove your willpower.

Now comes challenge 2. During the next four episodes, contestants are to lose 10 percent of their body weight. You begin a strict diet. You assure the host that, yes, you are strong and have great willpower, saying “It’s just a matter of who wants it the most.”

While too much food took away your appetite, the food deprivation is just plain miserable! Gone are the body’s gentle defenses. This time your body is not fooling around. You feel cranky and irritable. You cannot think straight, because your appetite is constantly at the center of your attention. It is getting in the way of your daily functioning. Two episodes later, you realize that you might be in over your head on this one. The more you restrain yourself and the more you ignore your bodily cues to eat, the grouzier you feel and the more tempting high-calorie food seems. This really is willpower versus bodily appetites. By episode 8, you have not been able to lose the full 10 percent. You get kicked off the show.

Because of your experience, you think about hunger, eating, and weight control a little differently. Your body seems to have an automated guide to how much it should weigh, and when its self-regulatory guides are ignored or outright rejected, then serious motivational states (e.g., hunger, misery) arise and intensify. The thesis of this chapter is that biological needs, physiological systems, motivational states, and behavior act in concert to achieve stable biological regulation.

NEED

A need is a condition within the person that is essential and necessary for growth, well-being, and life. Need support (food, water, sleep) maintains life and health, nurtures growth, and promotes well-being. Need thwart (no food, no water, no sleep) threatens life and health, halts growth, and disrupts well-being. Because need thwarting is so threatening, the body puts up defenses in the form of rather urgent and attention-getting motivational and emotional states that provide the impetus to act before serious damage occurs.

Three Types of Needs

Three categories of needs exist. These can be organized within a need structure, as illustrated in Figure 4.1. Table 4.1 defines each of these three types of needs.

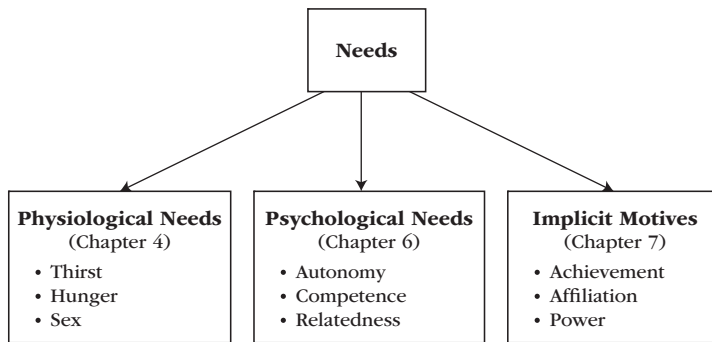


Figure 4.1 Types of Needs

Table 4.1 Three Types of Needs with Their Definitions and Examples

| Type of Need | Definition, with Examples |
|---------------|---|
| Physiological | A biological condition within the organism that synchronizes brain structures, hormones, and major organs to regulate bodily well-being and to correct bodily imbalances that are potential threats to growth, well-being, and life. Examples include thirst, hunger, and sex. |
| Psychological | An inherent (inborn) psychological process that underlies the proactive desire to seek out interactions with the environment that can promote personal growth, social development, and psychological well-being. Examples include autonomy, competence, and relatedness. |
| Implicit | A developmentally acquired (socialized) psychological process to seek out and spend time interacting with those environmental events associated with positive emotion during one's socialization history. Examples include achievement, affiliation, and power. |

Damage can be done to the body, so motives arise from physiological needs (e.g., thirst, hunger, sex, pain, sleep, temperature regulation) to energize, direct, and sustain the behavior necessary to avoid tissue damage that would otherwise lead to biological decay, ill-being, and death. Physiological needs are inherent within the effective functioning of biological systems and will be discussed in this chapter.

Damage can also be to the self, so motives arise from psychological needs to energize, direct, and sustain the behavior necessary to move toward greater personal growth, well-being, and life. Psychological needs (autonomy, competence, relatedness) are inherent psychological processes within the strivings of human nature and healthy development and will be discussed in Chapter 6.

Implicit needs (achievement, affiliation, and power) are developmentally internalized individual differences that people acquire through their unique socioemotional developmental history. They develop as unconscious motives that use emotions as a guide to life, personal growth, and well-being, and these will be discussed in Chapter 7.

The distinction between biological and psychological needs is a relatively easy one, because it differentiates bodily needs and physical well-being from psychological needs and mental well-being. The distinction between psychological and implicit needs, however, is more subtle. Psychological needs exist within human nature and are, therefore, inherent in everyone. Everyone needs autonomy, competence, and relatedness, and people are aware of these needs and how their satisfaction versus frustration affects their well-being. Implicit needs arise from our unique personal experiences and

therefore vary considerably from person to person. Some people experience a very high need for achievement, but little need for either affiliation or power. Others mostly need affiliation, rather than achievement or power. Because these needs are rooted in early socialization experiences, people are generally not aware of these needs, because they are implicit or unconscious experiences.

All needs generate energetic and persistent behavior. How one need differs from another is therefore through its effects on the direction of behavior (Murray, 1937). For instance, a hunger need is different from a thirst need, not in the amount of energy and persistence it generates but in its ability to direct attention and action toward seeking out food rather than water. Similarly, a competence need is different from a relatedness need not in the amount of motivation energized and sustained but, rather, in the ensuing desire to seek out optimal challenges rather than intimate relationships.

Another way that needs differ is that some generate deficiency motivation, whereas others generate growth motivation (Maslow, 1987). With deficiency needs, life goes along just fine until some state of deprivation (i.e., it's been 10 hours since your last meal) activates an emergency-like need to interact with the world in a way that will quiet the deficit (i.e., consume food). Growth needs are more subtle. They more gently guide behavior toward a developmental trajectory of growth and well-being. For instance, the need for competence promotes a general desire to seek out opportunities to improve our skills, whereas the need for relatedness leads us to log onto Facebook in the search of supportive interpersonal relationships (Sheldon, 2011; Sheldon & Schuler, 2011). One telltale sign to differentiate a deficiency-based need from a growth-based need is by the emotions each generates. Deficiency needs typically generate tension-packed, urgency-laden emotions, such as anxiety, frustration, pain, and relief. Growth needs typically generate positive emotions, such as interest, enjoyment, hope, and vitality. These emotions help explain the different purposes behind different types of needs, because deficiency-based biological needs generate negative emotions that grab our full attention until we take the action necessary to prevent decay, ill-being, and death while growth-based psychological needs generate positive emotions that gently encourage us to engage in activities and relationships that foster growth, well-being, and self-actualization.

FUNDAMENTALS OF REGULATION

A half century ago, Clark Hull (1943) created a biologically based theory of motivation referred to as drive theory (see Chapter 2). According to drive theory, physiological deprivations and deficits (e.g., lack of water, food, and sleep) create biological needs. If the need continues unsatisfied, the biological deprivation becomes potent enough to occupy attention and generate psychological drive. *Drive* is a theoretical term used to depict the psychological discomfort (felt tension and restlessness) stemming from the underlying and persistent biological deficit. Drive energizes the animal into action and directs that energized activity toward those particular behaviors that are capable of servicing (satisfying) the biological deficit that created the drive in the first place.

Figure 4.2 illustrates the physiological need—psychological drive—behavioral action process. After drinking a glass of water or having breakfast, an individual experiences a satiated (i.e., full) biological condition, as depicted in (1). As time goes by, the individual evaporates water and expends calories. With this naturally occurring loss of water and nutrients, physiological imbalances or deficits begin to accumulate (2). If the physiological imbalances persist and intensify, then continued deprivation produces a bodily need for water or calories (3). In time, the physiological need intensifies enough to produce felt tension and restlessness, which is the psychological drive (4). Once motivated by drive, the person begins to think about and to actually engage in goal-directed action (5). When the thirsty person finds and drinks water, or when the hungry person locates and consumes food, consummatory behavior occurs (6). The water or food intake satisfies and removes the underlying bodily need, which quiets the psychological drive through a process called drive

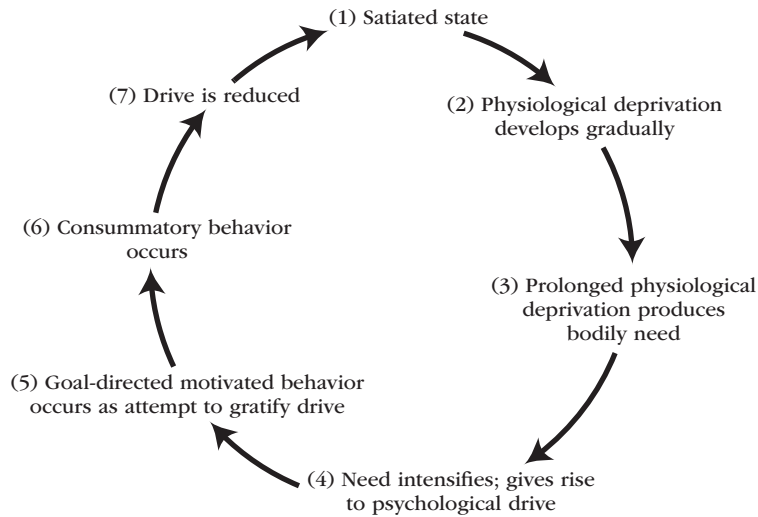


Figure 4.2 Model of Need-Drive-Behavior Sequence

reduction (7). Following drive reduction, the individual returns to a satiated (i.e., unmotivated) state (1), and the whole cyclical process begins to play itself out again.

The cyclical pattern depicting the rise and fall of a psychological drive (Figure 4.2) involves seven core regulatory processes: need, drive, homeostasis, negative feedback, multiple inputs/multiple outputs, intraorganismic mechanisms, and extraorganismic mechanisms.

Physiological Need

Physiological need describes a deficient biological condition. Physiological needs occur with tissue and bloodstream deficits, as from water loss, nutrient deprivation, or physical injury. These deficits range from mild imbalances to life-threatening emergencies. When intense and unaddressed, physiological needs foreshadow and eventually translate into bodily harm and pathology, as someone who is diabetic can tell you (e.g., “I *need* insulin, or I’m in trouble.”).

Psychological Drive

Drive is a psychological, not a biological, term. It is the conscious manifestation of an underlying unconscious physiological need. Drive, not the underlying physiological need per se, has motivational properties. For instance, appetite (psychological drive), not low blood sugar or shrunken fat cells (biological need), energizes and directs behavior. When salient enough to grab the individual’s attention, drive motivationally readies the individual to engage in goal-directed thoughts and behaviors that are capable of yielding drive reduction.

Homeostasis

Bodily systems show a remarkable capacity for maintaining a steady state of equilibrium. This is true even as these systems perform their functions and are exposed to widely differing and stressful environmental conditions. For instance, bodily temperature constantly hovers around 37°C (or 99.6°F), almost no matter what. *Homeostasis* is the term that describes the body’s tendency to maintain a stable internal state. The bloodstream, for instance, shows a remarkable constancy in its level of water,

salt, sugar, calcium, oxygen, temperature, acidity, proteins, and fats (Cannon, 1932; Dempsey, 1951). People constantly face changing external and internal environments, however, and the mere passage of time can bring conditions of deprivation. Or, people eat, drink, and sleep to excess. Hence, bodily systems are inevitably and continually displaced from homeostasis either by changes in environmental conditions or by one's own consummatory or risk-taking behaviors. Homeostasis is essentially the body's ability to return a system (i.e., bloodstream) to its basal state. To do so, people take compensatory action, and the reason they take compensatory action is that they are motivated by drive to do so. Thus, the body has both a tendency to maintain a steady state and the motivational and behavioral means to do so.

Negative Feedback

Negative feedback refers to homeostasis' physiological stop system (Mook, 1988). People eat and sleep but only until they are no longer hungry or sleepy. While drive activates behavior, negative feedback stops it.

Without feedback and without a way of inhibiting drive-motivated behavior once the underlying need was satiated, human beings would be like the fabled sorcerer's apprentice (from Dukas's poem popularized by Walt Disney's *Fantasia*; Cofer & Appley, 1964). As the story goes, the apprentice, by imitating the sorcerer, learned how to command a broom to bring a bucket of water. The broom obeyed and brought the apprentice a bucket of water. After several buckets, the apprentice had enough water, but the broom continued to bring bucket after bucket. Most regrettably, the apprentice forgot to learn how to command the broom to quit bringing water. Were the body unable to turn off drive, bodily disaster would result. If people were unable to shut off hunger, they might literally eat themselves to ill-being and death.

Negative feedback systems actually signal satiety well before the physiological need is fully replenished (Adolph, 1980). At first, people eat and drink rapidly, but the rate of eating and drinking decreases quickly over the course of a meal (Spitzer & Rodin, 1981). As people digest food and water, the body displays an amazing aptitude to estimate how much of the food or water, when transformed and transplanted, will be needed to gratify the underlying physiological need. During drinking, for example, the body continuously monitors the volume of fluid ingested on each swallow and it uses that information to predict (unconsciously and automatically) how much water will eventually make its way into the bloodstream and bodily cells. Understanding precisely how the body signals satiety constitutes the study of negative feedback systems.

Multiple Inputs/Multiple Outputs

Drive has multiple inputs, or means of activation. One can feel thirsty, for example, after sweating, eating salty foods, or donating blood, or even at a particular time of day. In much the same way, satiety has multiple outlets, or behavioral responses. When cold, a person can shiver the musculature, put on a jacket, turn up the furnace, or engage in vigorous exercise. Each of these behaviors achieves the same end result—a raised body temperature. The basic idea is that drive arises from a number of different sources (inputs) and motivates a number of different goal-directed behaviors (outputs) until satiety occurs.

The convergence of multiple inputs with multiple outputs, shown in Figure 4.3, is actually what makes drive such an appealing motivational construct. In theoretical terms, drive is an intervening variable (recall the theme from Chapter 1), one that integrates the relationships among several otherwise diverse input and output variables (Miller, 1971). Drive is the unobservable motivational concept that stands between (“intervenes” between) observable causes and observable behaviors.

Pain as an intervening variable helps explain what is common among the motivational processes that occur immediately after, for instance, a hammer strikes the hand (Antecedent 1 in the figure),

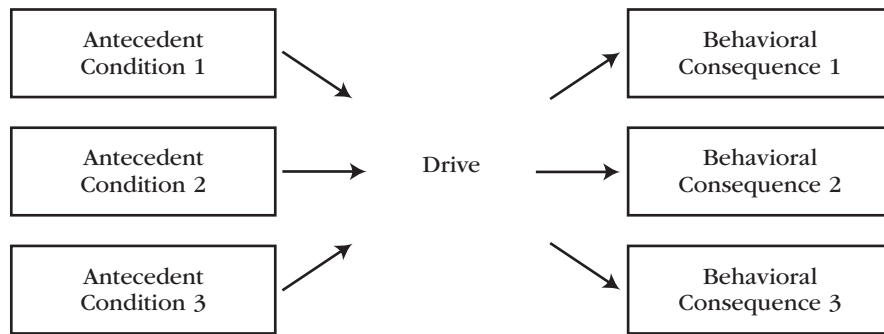


Figure 4.3 Drive as an Intervening Variable

a hand touches the hot stove (Antecedent 2), or a bare foot scrapes across a nail (Antecedent 3) to the time that the person shakes his or her hand frantically (Consequence 1), pours cold water over his or her hand (Consequence 2), or hops around on one foot (Consequence 3). Drive, therefore, intervenes between states of deprivation (input stimuli) and restorative goal-directed actions (output responses).¹

Intraorganismic Mechanisms

Intraorganismic mechanisms include all the biological regulatory systems within the person that act in concert to activate, maintain, and terminate the biological needs that underlie drive. Brain structures, the endocrine system, and bodily organs constitute the three main categories of intraorganismic mechanisms. For hunger, the principal intraorganismic mechanisms include the hypothalamus (brain structure); glucose and insulin hormones (endocrine system); and the stomach, liver, and pancreas (bodily organs). Together, these bodily mechanisms interact and affect one another in ways that create, maintain, and terminate psychological drive. The study of intraorganismic mechanisms is the study of how internal physiological events cause biological need.

Extraorganismic Mechanisms

Extraorganismic mechanisms include all the environmental influences that play a part in activating, maintaining, and terminating psychological drive. The principal categories of extraorganismic mechanisms are cognitive, environmental, social, and cultural influences. For hunger, extraorganismic influences include beliefs about calories and goals for losing weight (cognitive influences), the smell of food and the time of day (environmental influences), the presence of others and peer pressure to eat or not (social influences), and sex roles and cultural ideals about desirable and undesirable body shapes (cultural influences). The study of extraorganismic mechanisms is the study of how cognitive, environmental, social, and cultural events cause biological need.

Homeostatic Mechanism

Figure 4.4 graphically represents the homeostatic mechanism, or the “wisdom of the body” (to quote Walter Cannon, 1932). Whether the homeostatic state is the body’s water, glucose, or nutrient

¹The intervening variable approach depicted in Figure 4.3 applies to all motives, not just to drive (recall the theme introduced in Chapter 1). Multiple inputs for the need for achievement, for instance, could be optimal challenge, rapid feedback, and personal responsibility for one’s outcomes, while multiple outputs for the need for achievement could be persistence in the face of failure, choice of moderately difficult undertakings, and entrepreneurship.

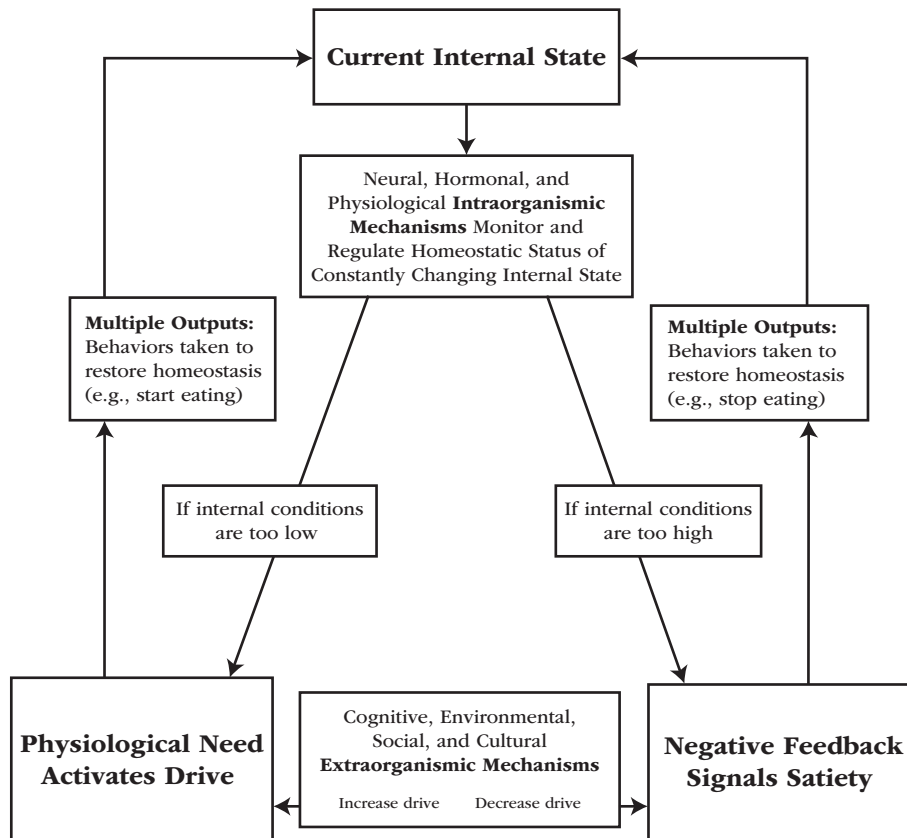


Figure 4.4 The Homeostatic Mechanism

level, intraorganismic mechanisms engage in an ongoing process of error detection in which rising internal conditions produce negative feedback and satiety or falling internal conditions produce need, drive, and behavioral restoration (multiple outputs). The purpose of Figure 4.4 is both to represent graphically the homeostatic mechanism and to illustrate the interrelations among the seven core regulatory processes of need, drive, homeostasis, negative feedback, multiple inputs/multiple outputs, intraorganismic mechanisms, and extraorganismic mechanisms.

THIRST

Our bodies are about two-thirds water. When our water volume falls by about 2 percent, we feel thirsty. Dehydration occurs with a 3 percent loss of water volume (Weinberg & Minaker, 1995). It is the loss of water below an optimal homeostatic level that creates the biological need that becomes psychological thirst.

We lose water constantly through perspiration, urination, breathing, and even through bleeding, vomiting, and sneezing (i.e., multiple inputs). Without water replenishment, each of us would die after three days. If you have ever gone more than 24 hours without any water, then you know that the body has reliable and effective intraorganismic mechanisms to grab your attention—your full attention—and motivate goal-directed behaviors to find and consume some water.

Physiological Regulation

The water inside the human body lies in both intracellular and extracellular fluids. The intracellular fluid consists of all the water inside the cells (approximately 40 percent of body weight). The extracellular fluid consists of all the water outside the cells in blood plasma and interstitial fluid (approximately 20 percent of body weight).

Thirst Activation

Water is water no matter where it is in the body, but the differentiation is important because thirst arises from these two distinct sources. Because thirst arises from both intracellular and extracellular deficits, physiologists endorse the double-depletion model of thirst activation (Epstein, 1973). When the intracellular fluid needs replenishment, osmometric thirst arises. Cellular dehydration causes osmometric thirst, and cellular hydration stops it. When the extracellular fluid needs replenishment (e.g., after sweating, bleeding, or vomiting), volumetric thirst arises. Hypovolemia (reduction of plasma volume) causes volumetric thirst, and hypervolemia stops it.

Consider the standard water deprivation study. Laboratory animals are deprived of water but not food for about 24 hours (Rolls, Wood, & Rolls, 1980). After depriving the animals of water, researchers selectively replace either the intracellular or the extracellular water (using special infusion techniques). The procedure yields three conditions: (1) intracellular replenishment only, (2) extracellular replenishment only, and (3) no replenishment (a control group). The amount of water drunk by animals in the third (control) group serves as a standard of normal thirst. Animals that received full replenishment of their extracellular (but not their intracellular) fluid drank just a bit less than did the animals that received no replenishment at all. That is, they drank as if they were still very thirsty. The extracellular replenishment helped—but only a little. Animals that received replenishment of their intracellular (but not their extracellular) fluid drank much less. That is, they drank as if they were mostly full. The intracellular replenishment quenched their thirst. These results suggest that osmometric thirst is the primary cause of thirst activation. Thirst comes mostly from dehydrated cells.

Thirst Satiety

When people drink, they do not drink forever. Something alerts the body to quit drinking. The negative feedback system is important because the body must not only replenish its water deficits, but it must also prevent drinking so much water that cellular dysfunction occurs and threatens death. In this spirit, animals that are not water deprived do not want to drink, and if forced to do so, they just let the water dribble out the side of their mouths without swallowing it (Williams & Teitelbaum, 1956). Humans, of course, often binge when drinking, but such drinking is regulated by factors other than water, such as taste or alcohol.

During drinking, water passes from the mouth and esophagus to the stomach and intestines and is then absorbed into the bloodstream. Through the process of osmosis, water eventually passes from the extracellular fluids (bloodstream) into the intracellular fluids to hydrate the cells. The negative feedback mechanism for this satiety must therefore lie in one (or more) of these bodily sites: mouth, stomach, intestines, bloodstream, and cells.

To locate thirst's negative feedback mechanism(s), physiologists devised a number of experiments. In one, animals drank water, but the experimenters arranged for the water to pass through the mouth but not reach the stomach (or intestines, bloodstream, or cells; Blass & Hall, 1976). The animals, on average, drank four times their normal amount of water, but they did eventually stop drinking. Thus, water passing through the mouth provides one thirst stop system, albeit a weak one, which was later found to be the number of swallows during drinking (Mook & Wagner, 1989).

Subsequent studies arranged for animals to drink so that water passed from the mouth to the stomach but not into the intestines, bloodstream, or cells (Hall, 1973). Animals receiving water into their mouths and stomachs drank twice as much as normal. Thus, the stomach, like the mouth, also has a thirst inhibitory mechanism, albeit another weak one.

Other studies allowed animals to drink with water passing into the bloodstream. Pressure receptors exist in walls of the blood vessels that allow the brain to know if water levels are above or below normal (homeostatic levels), and these pressure receptors represent another weak feedback.

In another experiment, animals drank a salt solution (Mook & Kozub, 1968). Drinking a salt solution allows much water into the extracellular fluids but little into the intracellular fluids. (Following the principle of osmosis, salty water does not diffuse into intracellular areas.) These animals drank more than normal. Therefore, the cells themselves must also house a negative feedback mechanism. Hence, water consumption does not fully alleviate thirst and stop drinking unless it eventually hydrates bodily cells (Mook, 1996). When taken as a whole, multiple negative feedback systems for thirst satiety exist—in the mouth, stomach, bloodstream, and cells.

Hypothalamus and Kidneys

The hypothalamus, kidneys, and some specific hormones also coordinate thirst activation and satiety. The hypothalamus, a subcortical brain structure introduced in Chapter 3, monitors intracellular shrinkage (caused by low-water levels) and releases a hormone into the blood plasma that sends a message to the kidneys to conserve its water reserves (by producing concentrated, rather than diluted, urine). The hypothalamus also contains cells that are salt-concentration-sensitive that detect above and below normal levels of salt concentration in the bloodstream (high salt concentrations correspond to low water levels; low salt concentrations correspond to high water levels). When the hypothalamus detects a low blood volume and a high salt concentration level (both of which are closely connected to low water), it stimulates the pituitary gland to release the antidiuretic hormone (ADH), which communicates the message to the kidneys to conserve water.

While the hypothalamus is managing the involuntary behavior of the kidneys, it also creates the conscious psychological state of thirst that directs attention and behavior toward water-replenishing courses of action. It is in the hypothalamus that the psychological experience of thirst originates, enters into consciousness (by sending a message of awareness to the prefrontal cortex), and generates the motivational urge to drink, which is psychological thirst.

Environmental Influences

For humans, the most important environmental influence for drinking is taste (Pfaffmann, 1960, 1961, 1982). Pure water is tasteless and, therefore, offers no incentive (reward) value above and beyond water replenishment. When water is given a taste, however, drinking behavior changes in accordance with the incentive value of the fluid.

There are four tastes, and each of these tastes can occur at a different level of intensity: sweet, sour, salty, and bitter. Using tasteless (pure) water as a baseline (no pleasantness), any taste is slightly pleasant at a very low intensity (even bitter). At more meaningful intensities, sucrose-flavored (sweet) water is markedly more pleasant than is tasteless water. Tartaric acid (sour), salt, and quinine-flavored (bitter) water are all markedly more unpleasant than tasteless water. So because flavored water has incentive value, people overdrink sweet water; homeostatically drink tasteless water; and underdrink sour, salt, and bitter water.²

²The relationship between taste and drinking behavior is complicated by the fact that water deprivation affects the perception of the taste of water. Water becomes increasingly more hedonically positive (more rewarding) with increased deprivation, and water becomes increasingly more hedonically aversive with water satiation (Beck, 1979; Williams & Teitelbaum, 1956).

When factors such as a sweet taste offer a high incentive value for drinking, human beings drink excessively and sometimes consume dangerously high amounts, biologically speaking (Rolls et al., 1980). People often drink soft drinks and tea for their taste alone. For water-based drinks that contain alcohol or caffeine, complications via addictions can emerge. Both alcohol and caffeine, therefore, introduce a number of additional physiological processes that motivate people to drink to excess. Furthermore, a number of social and cultural influences surround the drinking of alcoholic and caffeinated beverages that make drinking behavior more complex than thirst-regulated water consumption. Some students on college campuses, for instance, binge-drink alcohol in astonishingly large amounts. Some drugs (e.g., Ecstasy) can also make people feel intensely thirsty and cause them to drink well beyond their physiological need, even to the point of water intoxication and death (Valtin, 2002). Thus, drinking occurs for three reasons: (1) thirst-related water replenishment, which satisfies biological need; (2) nonthirst-related sweet taste, which is a response to the attractive incentive value of flavored water; and (3) a nonthirst-related attraction to, or even addiction to, a substance in the water (and not the water itself).

Another extraorganismic influence on drinking behavior is the cultural prescription to drink eight glasses of water a day. No scientific evidence, however, supports this advice (Valtin, 2002). This is because food intake provides 20 percent of total water intake while beverages of all kinds provide more than enough to make up for the rest (Rolls, Bell, & Thorwart, 1999). Almost everyone drinks eight glasses of water a day whether they intend to or not.

HUNGER

Hunger is more motivationally complex than thirst. Water loss instigates thirst, and water replenishment satiates it. Hunger, then, might simply involve the cyclical loss and replenishment of food. But, unlike thirst, hunger only loosely follows a “depletion–repletion” model. Food deprivation does activate hunger and eating (i.e., people eat three meals a day to prevent food deprivation). But hunger regulation involves not only short-term daily processes operating under homeostatic regulation (e.g., depletion and repletion of blood glucose and calories) but also long-term processes operating under metabolic regulation and stored energy (e.g., fat cells). Hunger and eating are further affected, and substantially so, by cognitive, social, and environmental influences, so much so that an understanding of hunger and eating requires all three of the following: (1) short-term appetite homeostatic-based models, (2) long-term genetic and metabolism energy balance models, and (3) cognitive–social–environmental regulatory models (Weingarten, 1985).

Short-Term Appetite

The *glucostatic hypothesis* is a homeostatic-based model of short-term appetite. This model does a good job of accounting for the onset and termination of hunger and eating. The glucostatic (gluco = blood glucose, static = equilibrium or homeostasis) hypothesis argues that blood-sugar levels are critical to hunger—when blood glucose drops, people feel hungry and want to eat (Campfield, Smith, Rosenbaum, & Hirsch, 1996).

Cells require glucose to produce energy. So after a cell uses its glucose to carry out its functions, a physiological need for glucose then arises.³ The bodily organ that monitors level of blood glucose is the liver, and when blood glucose is low, the liver sends an excitatory signal to the lateral hypothalamus (LH), the brain center responsible for generating the psychological experience

³Blood glucose is not the full story in the onset of hunger, as people with diabetes will tell you, because they often have both high glucose and high hunger. While people with diabetes have high blood glucose, what they need (and do not have) is high cellular glucose. People with diabetes need insulin because insulin (the hormone they lack) increases cell membrane permeability so that glucose can flow freely from the bloodstream into the cells (Schwartz et al., 2000). In the presence of insulin, blood glucose can then become cellular (in-cell) glucose.

of hunger (Anand, Chhina, & Singh, 1962; Wyrwicka, 1988). Stimulation of the LH is important, because its stimulation will lead animals to overeat and, if stimulation is continued, to eat to obesity (Elmquist, Elias, & Saper, 1999).

The brain structure involved in the termination of meals is the neighboring ventromedial hypothalamus (VMH). When stimulated, the VMH acts as the brain's satiety center—that is, the VMH acts as short-term appetite's negative feedback system (Miller, 1960). Without a VMH, animals become chronic overeaters that double their body weight (Stevenson, 1969). How the VMH's negative feedback system gets stimulated in the first place is by the liver's detection of high levels of glucose (Russek, 1971; Schmitt, 1973), stomach distensions (full stomach) during eating (Moran, 2000), and the release of the gut peptide cholecystokinin (CCK; Woods, Seeley, Porte, & Schwartz, 1998).

According to the glucostatic hypothesis, appetite rises and falls in response to changes in plasma glucose that, when low, stimulate the LH to increase hunger and that, when high, stimulate the VMH to decrease hunger. But other intraorganismic mechanisms also influence the rise and fall of hunger. The LH, for instance, contains specialized neurons that respond to the rewarding properties of food, such as its taste, and these specialized neurons become activated only when the animal is already somewhat hungry (Rolls, Sanghera, & Roper-Hall, 1979). Short-term appetite also rises and falls in response to nonbrain-based cues, including stomach distensions (Deutsch, Young, & Kalogeris, 1978; McHugh & Moran, 1985) and body temperature (Brobeck, 1960). Concerning body temperature, it is no accident that restaurants routinely run their air conditioners on full blast—because cold temperatures stimulate eating. Likewise, we eat more in the winter than in the summer, not because we are hungry but because we are cold and need the energy to warm up.

The chief nonbrain-based regulator of hunger, however, is the stomach. It empties itself at a calorie-constant rate (about 210 calories per hour), so appetite returns more quickly after a low-calorie meal than after a high-calorie meal (McHugh & Moran, 1985). With a full stomach, people report no hunger; with a stomach that is 60 percent empty, people report a hint of oncoming hunger; and with a stomach that is 90 percent empty, people report maximum hunger, even though some food remains in the stomach (Sepple & Read, 1989).⁴ One take-home message from this research is advice that works better than any diet program, which is the 80 percent rule: Stop eating when you feel 80 percent full. This is because it takes a little extra time for the stomach to relay to the brain that it is full. You are actually full when you feel 80 percent full, but it takes a little extra time for the stomach to tell the brain that this is so. If you pause for a few minutes at 80 percent, you will see this phenomenon in action.

Another take-home message is that different foods provide a different feeling of satiety, mostly because they differ in amount of protein, fiber, carbohydrates (sugars, starch), fat, water, and serving size (Holt, Brand-Miller, Petocz, & Farmakalidis, 1995). Food high in protein and fiber (e.g., potatoes, brown pasta) or just protein (e.g., fish) or just fiber (e.g., bran cereal) produce the greatest feeling of satiety (I feel full), whereas foods that take little time or effort to eat (e.g., highly palatable foods, such as croissants, cake, donuts, yogurt, and white bread) produce the greatest feeling of lingering hunger (I still feel hungry), even if the number of calories in the two different foods is the same.

Long-Term Energy Balance

Like glucose, fat (adipose tissue) also produces energy. Just as the body monitors its glucose levels rather precisely, it also monitors its fat cells rather precisely (Faust, Johnson, & Hirsch, 1977a, 1977b). According to the lipostatic (lipo = fatty; static = equilibrium or homeostasis)

⁴Deutsch and Gonzalez (1980) further find that the stomach signals not only food volume information but food content information as well. These researchers removed specific nutrients from an animal's food and found that the animal responded by eating foods that had those particular nutrients and refusing foods without those nutrients.

hypothesis, when the mass of fat stored drops below its homeostatic balance, adipose tissue secretes hormones (e.g., ghrelin) into the bloodstream to promote hunger (Borecki et al., 1995; Cummings et al., 2002; Wren et al., 2001). Alternatively, when the mass of fat stored increases above its homeostatic balance, adipose tissue secretes hormones (e.g., leptin) into the bloodstream to promote satiety (Harvey & Ashford, 2003; Schwartz & Seeley, 1997).

Hormones play a critical role in the rise and fall of hunger. Ghrelin is a hormone manufactured in the stomach, circulated in the blood, and detected and monitored by the LH.⁵ Through ghrelin, the LH receives this message from the stomach and intestines: Nutrients are scarce, send supplies! When that physiological message is translated psychologically, it is a feeling of hunger.

Another important hunger-related hormone is leptin (the Greek word for “thin”). It is manufactured by fat cells throughout the body, circulated in blood, and detected and monitored by the VMH (Campfield, Smith, & Burn, 1997a, 1997b; Spiegelman & Flier, 2001). Through leptin, the VMH receives this message from the fat cells: Nutrients are abundant, stop supplies! When the physiological message is translated psychologically, it is a feeling of satiety (feeling full; Barzilai et al., 1997).

Consider how this works. It is lunchtime, and some friendly psychologists invite you to join a group of volunteers at an all-you-can-eat buffet (Wren et al., 2001). The lunch is free, and all attendees may eat as much as they would like. But there is a catch. Thirty minutes before the feast, the researchers give some volunteers an intravenous injection of ghrelin while other volunteers receive only a placebo injection. Following the injections, the researchers take a chair, sit back, and watch what happens. What happens is that, while the volunteers with the placebo eat a normal meal, the volunteers with extra ghrelin floating around in their bloodstreams pig out.

Consider a second illustration. Researchers monitored adults’ naturally occurring ghrelin over the course of several days (Cummings et al., 2002). After measuring the adults’ natural day-to-day levels of ghrelin, the researchers asked some of the adults to start a three-month diet. The diet was carefully designed and included a program of vigorous exercise. It worked. On average, the dieters lost about 20 percent of their body weight, and they maintained their weight loss for another three months. Over this time, the researchers continued to monitor the dieters’ levels of ghrelin. Unbeknown to the dieters, their ghrelin levels continued to rise. Even three months after the diet was over, many dieters still felt “hungry all the time.” Why dieters felt this way can be explained by three findings from the study. First, ghrelin rises and falls throughout the normal day—peaking around the times that people normally take their breakfast, lunch, and dinner. Second, eating food causes a rapid fall in ghrelin. Hence, after we eat breakfast, lunch, or dinner, ghrelin falls quickly and rather dramatically. Third, ghrelin is always chronically higher when people are on a diet than when not on a diet. Hence, the ghrelin level for a nondieter before a meal is roughly the same as it is for a dieter after a meal. This last finding explains why a dieter can feel “hungry all the time.”

The message is that diet-induced food deprivation leads the body to generate a potent counterforce against further dieting and food deprivation (i.e., the spike in ghrelin). As one woman who experienced the diet-induced ghrelin spike phrased it, “When I look at a frosted butter cookie, the bells in my head that go off are like standing on the top of a cathedral.” From a motivational point of view, the role of ghrelin is to stimulate the brain: “Eat, eat, eat!”

Pharmaceutical (drug) companies are hard at work trying to create drugs to stimulate weight gain and weight loss (Yanovski & Yanovski, 2002). Ghrelin-based drugs have the potential to stimulate appetite to help people, for instance, who are going through chemotherapy (Woods et al., 1998), whereas leptin-based drugs have the potential to suppress appetite, thus reversing obesity (Campfield, Smith, & Burn, 1998). Unfortunately, leptin drugs do not decrease hunger and reverse obesity because people quickly develop resistance to the drug (Myers, Cowley, & Munzberg, 2008).

⁵The LH also manufactures appetite-boosting peptides called orexins (the Greek word for “appetite”; Sakurai et al., 1998). Orexins are powerful appetite boosters, and when injected into the brain of rats, the animals eat three to six times more than control rats.

In the same spirit, some food companies seek to postpone the release of insulin by offering low glycemic index foods (this index rank orders carbohydrate-based foods in terms of how much they raise the blood-sugar level), while other food companies offer nutrition bars with a special type of starch to keep blood sugar level constant (to suppress the onset of hunger).

Set-Point Theory

A spin-off theory of the lipostatic hypothesis is the set-point theory (Keesey, 1980; Keesey, Boyle, Kemnitz, & Mitchell, 1976; Keesey & Powley, 1975; Powley & Keesey, 1970). Set-point theory argues that each individual has a biologically determined body weight or “fat thermostat” that is set by genetics either at birth or shortly thereafter. Genetics create individual differences in the number of fat cells per person. In set-point theory, hunger activation and satiety depend on the size (not the number) of one’s fat cells, which vary over time. When fat cell size is reduced (e.g., through dieting), hunger rises until feeding behavior allows the fat cells to return to their natural (set-point) size. Hunger, therefore, is the body’s means of defending its genetic set point (Bennett, 1995).

Both the lipostatic hypothesis and set-point theory reflect long-term enduring factors (e.g., genetics, metabolic rates) that regulate the balance between food intake, energy expenditure, and body weight. As to genetics, people inherit relatively consistent metabolic rates (biochemical processes that convert stored energy into expendable energy). People also inherit a number of fat cells and a homeostatic set point for how extended (full) those fat cells should be. While these regulatory processes are relatively constant over time, they can and do change. Set point rises with age, metabolism drops following prolonged caloric restriction (as during a diet), and a chronic excess of food intake can lead to an increase in both fat cell size (lipogenesis) and fat cell number (adipogenesis), and all of these processes can change the set point upward (Kassirer & Angell, 1998; Keesey, 1989; Mandrup & Lane, 1997).

Environmental Influences

Environmental influences that affect eating behavior include the time of day, stress, and the sight, smell, appearance, and taste of food. Eating behavior increases significantly, for instance, when an individual confronts a variety of foods, a variety of nutrients, and a variety of tastes (Rolls, 1979; Rolls, Rowe, & Rolls, 1982). The mere availability of food variety encourages more eating than does a monotonous diet (Sclafani & Springer, 1976). Even when the individual has only one type of food (e.g., ice cream), variety in the number of flavors available increases food intake (Beatty, 1982). Food availability (e.g., a lot of different foods sitting out on a table at a party or buffet) and large portion sizes also lead people to overeat (Hill & Peters, 1998). For food availability, for instance, people nibble here and there when a lot of different foods are sitting out at a buffet. Each new food brings a new taste, and hence can initiate eating in a way that is independent of hunger. For large portion sizes, people generally eat more when the meal is “super-sized” than when it is not.

Eating is often a social occasion. People eat more when they are in the presence of others (who are also eating) than when they are alone—often 50 percent more (Berry, Beatty, & Klesges, 1985; De Castro, 1991, 1994; De Castro & Brewer, 1992). In the company of others, people eat more, and they eat for longer periods of time (De Castro, 1990), and this is especially true when those others are family and friends (De Castro, 1994). One demonstration of this social facilitation effect involved an experiment with the help of college students participating in an ice-cream tasting experiment. Half the students ate alone, whereas the other half ate in a group of three. Ice-cream eaters also had either one or three flavors from which to choose (a variety manipulation). When the experimenters measured how much ice cream everyone ate, people who ate in the company of others ate more ice

cream than did people who ate alone and people who had three flavors available ate more ice cream than did people who had only a single flavor available (Berry et al., 1985).

Situational pressure to eat or to diet serves as another environmental influence on eating behavior. Bingeing on food, for instance, is an acquired behavioral pattern under substantial social control (Crandall, 1988). It often occurs in small groups, such as athletic teams (Crago, Yates, Beutler, & Arizmendi, 1985) and cheerleading squads (Squire, 1983), partly because small groups develop and enforce norms about what is appropriate behavior. Deviation from these norms typically results in a peer-pressure-based form of interpersonal rejection and a reduction in popularity.

A final environmental influence on eating is whether our friends are obese. A person's chance of becoming obese increases by over 50 percent if he or she has a friend who recently became obese, and this is especially true with siblings and same-sex friends.

Self-Regulatory Influences

Cognitively Regulated Eating Style

As illustrated by the glucostatic and lipostatic hypotheses, the body defends its weight. Sometimes, however, people come to the conclusion that their physiologically regulated body weight does not measure up well to personal or cultural aspirations. Rather like a civil war, people decide that it is time for the mind, or will, to take over and regulate body weight. Successful dieting (in terms of weight-loss goals) requires that the dieter first deaden his or her responsiveness to internal cues (e.g., feeling hungry) and second substitute conscious cognitive controls to supplant, or override, automatic and unconscious physiological controls (Heatherton, Polivy, & Herman, 1989). By dieting, the dieter attempts to bring eating behavior under cognitive, rather than under physiological, control (e.g., "I will eat this much at this time," rather than "I will eat when hungry"). The big problem, however, is that cognitive controls do not feature a negative feedback system.

Lacking a negative feedback system, dieters are highly vulnerable to bingeing. This is so for two reasons.

First, we like to think that our cognitive controls and willpower are stronger than our physiological controls and hunger urges. In doing so, we fool ourselves, because we underappreciate how potent and how attention-getting biologically based motives can be when we are not currently experiencing them (Loewenstein, 1996). If you are suspicious about this claim, estimate how hungry or how tempted you would be after a 24-hour fast. Then, fast for 24 hours and notice that you really underestimated the motivational potency of these automatic physiological cues.

Second, environmental events (e.g., alcohol, the presence of others) and our own feelings (e.g., depression, anxiety) can easily distract us away from cognitive control over what we are trying to do. The process in which biological signals overwhelm our well-meant cognitive controls (to the point in which our cognitive controls literally collapse, as in bingeing) can be understood by the phenomenon of restraint-release.

Restraint-Release Situations

Under conditions of anxiety, stress, alcohol, depression, or exposure to high-calorie foods, dieters become increasingly susceptible to disinhibition (or "restraint release") of their cognitively regulated eating style (Greeno & Wing, 1994; Polivy & Herman, 1983, 1985). One study, for example, found that people on a diet ate less ice cream than people not dieting, as you would expect, but dieters actually ate more than nondieters when everyone first drank a 15-ounce milkshake. After the dieters drank the high-calorie food, they became increasingly vulnerable to bingeing (Herman, Polivy, & Esses, 1987). For dieters, there is truth in the advertising slogan, "You can't eat just one." Similarly,

fasting rarely works because it is associated with a major reduction in energy expended (less activity, less motivation to be physically active), decreased metabolism, and fragile cognitive controls that are dangerously vulnerable to restraint release (Lowe, 1993). It is ironic, but dieting and fasting paradoxically create ripe conditions for binge eating.

Counterregulation describes the paradoxical pattern displayed by dieters who generally eat very little yet who eat very much after consuming a high-calorie “preload” (Herman & Mack, 1975; Polivy, 1976; Polivy & Herman, 1985; Ruderman & Wilson, 1979). But consuming high-calorie food is only one of many conditions that unleash the floodgate that is a dieter’s bingeing. Depression can also trigger a dieter’s restraint release. For instance, depressed dieters typically gain weight, whereas people who are not dieting and are depressed typically lose weight (Polivy & Herman, 1976a). The same pattern holds for anxiety, because anxious dieters eat more than anxious nondieters (Baucom & Aiken, 1981). Stressors produce this same paradoxical effect in which restrained eaters eat more than do unrestrained eaters (Heatherton, Herman, & Polivy, 1991). Alcohol has this same restraint-release effect on dieters as well (Polivy & Herman, 1976b).

Weight Gain and Obesity

Obesity is a medical term that describes a state of increased body weight (adipose tissue) that is of sufficient magnitude to produce adverse health consequences, including an increased risk of heart disease, diabetes, respiratory problems, some cancers, and premature death (Stevens et al., 1998). A whopping 65 percent of American adults are overweight, with 35 percent of all adults qualifying as obese or as morbidly obese (World Health Organization, 2012). Worldwide, 2.2 billion people (30%) are obese (Afshin, Forouzanfar, & Reitsma, 2017). Obesity is a serious medical concern as about 4.0 million people die each year from cardiovascular disease, diabetes, and cancer (but mostly cardiovascular disease) that are linked to their obesity (Afshin et al., 2017).

Unfortunately, little or no research supports the claim that weight loss produces health benefits (Blackburn, 1995), because the cure for obesity (i.e., weight loss) might very well be worse than the condition itself (Kassirer & Angell, 1998). Therefore, most obesity researchers emphasize prevention (adults in their 20s and 30s often gain a lot of weight) and the cultivation of a healthier lifestyle that centers on exercise (see Box 4) and healthy eating (Otis & Pelletier, 2008).

Other than surgery (see Cummings et al., 2002), the only ways people can prevent or reverse weight gain and obesity are to decrease eating through self-regulatory strategies (e.g., goals, monitoring eating), becoming aware of and monitoring the environmental influences that affect eating, and increasing physical activity to expend calories and fat stores. People can set and pursue “healthy eating” goals, for instance (Verstuyf, Vansteenkiste, & Soenens, 2012). These three motivations—goal-setting/self-regulation of food intake, mindfulness over one’s environmental influences, and exercise motivation—represent voluntary behaviors rather than physiological processes. Physiological regulatory processes (as described above) affect hunger motivation, and hunger motivation is notoriously difficult to gain conscious control over (see “Restraint Release”). The optimistic point to make is that goal-setting, self-regulation, mindfulness, and exercising are not so difficult to gain conscious control over. So motivating oneself to regulate body weight can be effective to the extent that the person focuses his or her motivation less on mastering hunger (through a cognitively regulated eating style) and more on goal-setting, self-regulation, mindfulness, and exercising.

Physical activity can mitigate the detrimental effects of overeating and protect against weight gain (Birch et al., 1991). Thus, exercise motivation seems centrally important to any effort to reverse the obesity epidemic. To affect the long-term balance between energy intake and energy expenditure, it is the physical activity component of the equation that can be readily altered and subjected to the sort of intervention programs offered by fitness gurus and motivational psychologists.

BOX 4 *Obesity Therapy: Reversing Self-Regulation Failure*

Question: Why is this information important?

Answer: Because obesity is a national epidemic.

Body weight and obesity are a lot like the weather: Everybody talks about it, but no one seems to do much about it. One reason people are talking so much about obesity is because it has become a national epidemic in the United States and is threatening to become a global epidemic (World Health Organization, 2012). Among adults in the United States, two-thirds are overweight. Currently, 38 percent of the U.S. population is obese, and that compares to rates of 35 percent in 2006, 33 percent in 1997, 23 percent in 1995, 15 percent in 1980, 14 percent in 1974, and 13 percent in 1962. As you can see, the rates of obesity are rising rapidly (Flegel, Carroll, Kucznarski, & Johnson, 1998; Taubes, 1998). Between 1980 and 2008, obesity rates doubled worldwide and tripled in the United States (Afshin et al., 2017). Southeast Asia has the lowest obesity problem, by the way, with 14 percent overweight and 3 percent obese (World Health Organization, 2012). Vietnam has the lowest obesity rate (1.6%) of all nations.

These numbers are based on the measure of body mass index (BMI), which is calculated by dividing the person's weight in kilograms by his or her height in meters squared. A BMI between 18 and 25 constitutes normal; 25 to 29 is overweight; and over 30 is obese (Yanovski & Yanovski, 2002). By this measure, a 5-foot, 10-inch (1.78 m) individual would be considered overweight at 175 pounds (80 kg) and obese at 210 pounds (95 kg).

To prevent weight gain and obesity, one has to know its origins. Obesity, which is basically just excess body fat, is a multifaceted phenomenon that integrates both genetic (Price, 1987; Stunkard, 1988) and environmental (Grilo &

Pogue-Geile, 1991; Jeffrey & Knauss, 1981) causes and influences. Some environmental influences associated with obesity, for instance, include increased availability, accessibility, affordability, and advertising of high-caloric foods (Swinburn et al., 2011), child-feeding practices (Klesges et al., 1983), low socioeconomic status (Sobal & Stunkard, 1989), high fat content in the diet (Sclafani, 1980), lack of exercise (Stern & Lowney, 1986), and stress (Greeno & Wing, 1994). Some genetic factors associated with obesity include metabolic efficiency, number and size of fat cells, liver disorders, and hypothalamic sensitivity (Hill, Pagliassotti, & Peters, 1994), because some bodies are more genetically predisposed to hoard their fat resources than are other bodies.

Our collective genes have not changed substantially in the last quarter century, so the primary culprits of the obesity epidemic are an environment and lifestyle that promotes overeating on the one hand and physical inactivity on the other (Hill & Peters, 1998). Environments in the United States offer easily available food (when considered in historical context), large portion sizes, and high-fat meals. Environments encourage physical inactivity by reducing people's requirement for physical exertion, such as through advances in transportation and technology (including television, computers, and electronic games). And, unfortunately, increased food intake and decreased physical activity are inextricably linked, such that the heavier we get, the more bothersome physical exercise, even walking, becomes (as nicely illustrated in the Walt Disney movie *Wall-E*). For instance, carry some extra weight as you go throughout your day (e.g., carry around a large bottle of water), and you will quickly experience a decreased willingness to engage in physical activity.

Comprehensive Model of Hunger

A comprehensive model of hunger that combines short-term and long-term physiological influences with environmental and self-regulatory influences appears in Figure 4.5. The two solid horizontal lines connecting hunger to eating represent the glucostatic hypothesis of short-term appetite in which hunger motivates eating (denoted by the + sign) whereas eating satiates hunger (denoted by the − sign). The dashed lines in the center of the figure represent the lipostatic hypothesis of long-term appetite in which eating increases fat stores while fat stores, in turn, stimulate hunger (when too low) and stimulate satiety (when too high). In addition, physical activity decreases fat stores. Lastly, environmental influences stimulate eating while self-regulatory motivation (e.g., goal setting, monitoring one's weight) regulated eating (rather than hunger per se). Overall, the figure identifies the core processes underlying hunger and eating from what can otherwise be a very complex set of relationships.

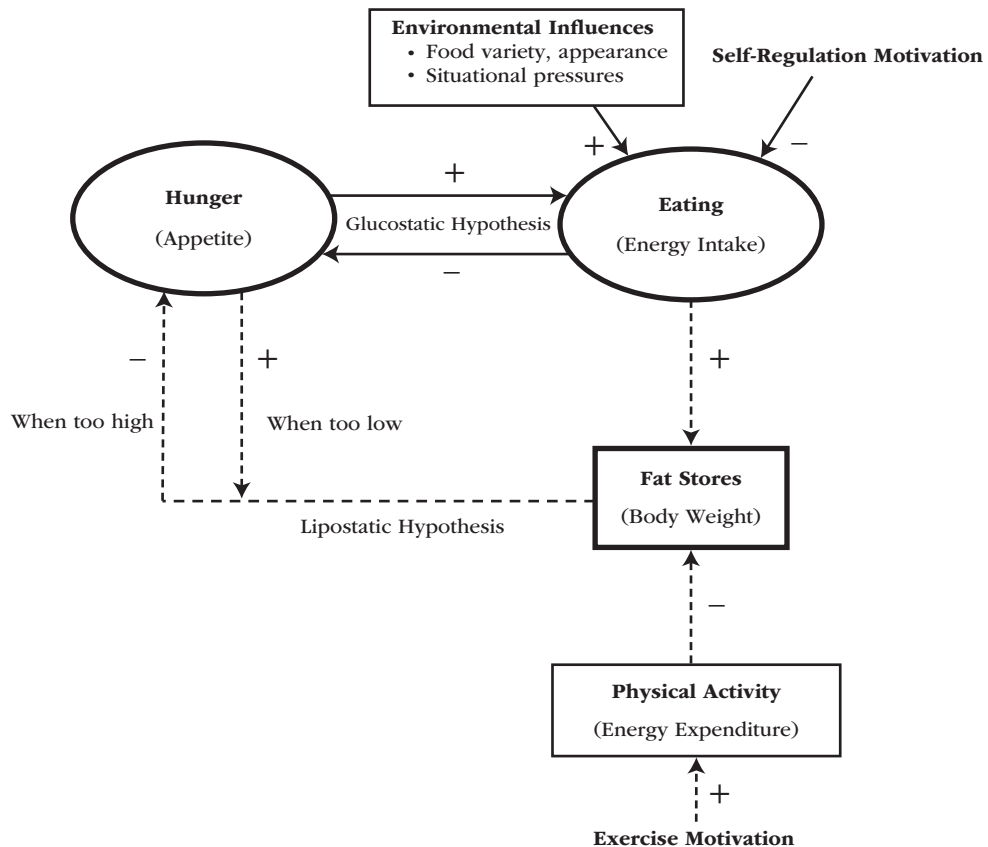


Figure 4.5 Comprehensive Model of Hunger Regulation

SEX

In lower animals, sexual motivation and behavior occur only during the female's ovulation period (Parkes & Bruce, 1961). During ovulation, the female secretes a pheromone, and its scent stimulates sexual advances from the male. For the male, injections of testosterone (a hormone) can further increase his sexual behavior. Hence, in the lower animals, sex conforms to the cyclical physiological need → psychological drive process shown in Figure 4.2.

Physiological Regulation

In humans, sexual behavior is influenced, but not determined, by hormones. The sex hormones are the androgens (e.g., testosterone), estrogens, progesterone, and oxytocin. These hormones rise at times, such as a woman's ovulation period, and fall as the person ages past young adulthood into adulthood and old age (Guay, 2001). At age 40, for instance, men's testosterone levels decline by about 1 percent each year. In both men and women, sexual desire and the hormones that underlie it decline steadily beginning in the mid-20s (Laumann, Paik, & Rosen, 1999) such that the hormones and sexual desire of a 40 year old are about half of that of a 20 year old (Zumoff, Strain, Miller, & Rosner, 1995).

Although present in both sexes, androgens mostly contribute to the sexual motivation of males (men have 10x more testosterone than do women), and estrogens mostly contribute to the sexual motivation of females (Money, Wiedeking, Walker, & Gain, 1976). Even for females, however,

androgens play the key role in regulating sexual motivation, with decreases in testosterone (as with aging) foreshadowing decreased sexual desire and increases in testosterone (as with androgen replacement therapy) somewhat reviving it (Apperloo, van der Stege, Hoek, & Schultz, 2003; Davis, 2000; Munarriz et al., 2002; Tuiten et al., 2000).

Men and women experience and react to sexual desire very differently (Basson, 2001). In men, the correlation between physiological arousal and psychological desire is high. For instance, the correlation between men's erectile response and their self-reported desire is very high (Meston, 2000). So men's sexual desire can be predicted and explained in the context of their sexual arousal. In the presence of a sexual arousal trigger (e.g., stimulation from a sexual partner), men show a triphasic sexual response cycle: desire, arousal, orgasm (Masters & Johnson, 1966; Segraves, 2001). The triphasic sexual response cycle that describes men's sexual motivation—the traditional sex response cycle—appears in the upper half of Figure 4.6. In this model, sexual desire emerges rather spontaneously from an arousal trigger (given appropriate basal support from hormonal levels), and that rising sexual desire then generates accompanying physiological and psychological arousal (in the form of sexual thoughts, fantasies, and a consciously felt urge to be sexual). Such sexual arousal enables orgasm, and with orgasm the traditional response cycle ends with a relatively quick resolution period that returns the man to a baseline state.

In women, the correlation between physiological arousal and psychological desire is low. For instance, the correlation between women's vaginal lubrication and self-reported desire is low and sometimes nonexistent (Meston, 2000). So women's sexual desire cannot be predicted and explained by physiological need (e.g., estrogen, testosterone) or arousal (e.g., genital engorgement). Instead,

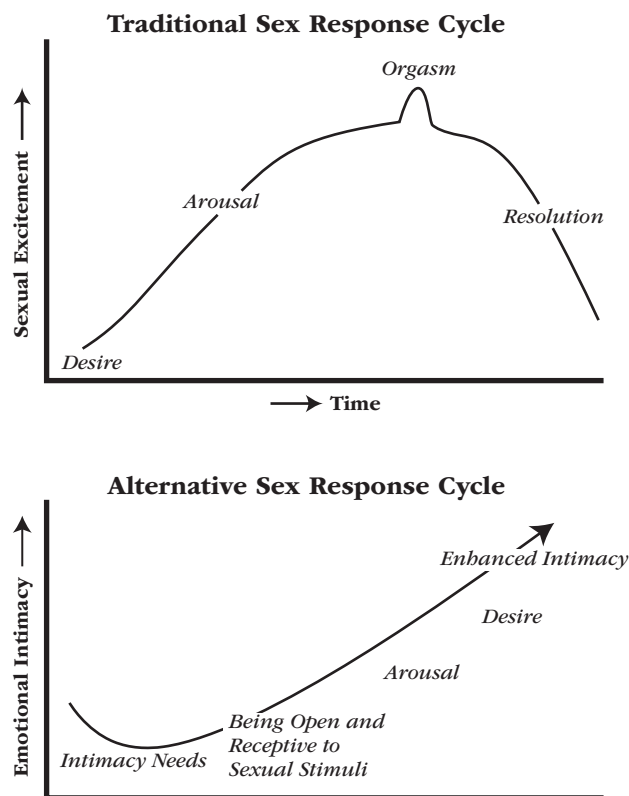


Figure 4.6 Two Models of the Sex Response Cycle: Traditional (Upper) and Alternative (Lower)

women's sexual desire is responsive to relationship factors, such as emotional intimacy (Basson, 2001, 2002). The intimacy-based model of sexual desire that describes women's sexual motivation appears in the lower half of Figure 4.6. Emotional intimacy anticipates sexual desire. It is emotional intimacy (not genital engorgement) that takes women from a state of sexual neutrality to being open, responsive, and receptive to sexual stimuli. In this context, sexual motivation reflects closeness and a desire to share with one's partner more than it does an underlying physiological need (Basson, 2003). Sex, therefore, begins with intimacy needs, not with sexual desire. Furthermore, sexual desire leads to and enhances long-term relationship intimacy, rather than to resolution as in the male sex response cycle. So, for a woman, sexual motivation begins with intimacy needs and the physical intimacy it allows for facilitates postsexual gains in felt intimacy toward her partner.

Desire and arousal are important, but so are pleasure and reward. If sex did not stimulate the brain's reward circuitry, then people might not bother with it so much. Sexual pleasure is associated with stimulation of the subcortical brain's reward circuitry (Chapter 3; Cacioppo, Bianchi-Demicheli, Hatfield, & Rapson, 2012). In comparing desire with love, sexual desire is associated with posterior insula activations (an embodied state), whereas love is more associated with anterior insula activations (positive subjective feelings).

Sexual behaviors include hand holding, touching, hugging, kissing, cuddling, and the stimulation of reproductive organs, and these behaviors stimulate the hypothalamus to release the hormone oxytocin into the bloodstream. For example, nipple stimulation (e.g., by a romantic partner, by an infant during breastfeeding) is picked up by the hypothalamus, which stimulates the pituitary gland to release oxytocin. Hugging also leads to oxytocin release. When released, oxytocin produces pleasurable feelings that promote social relatedness and bonding. In women, oxytocin is released not only during sex but also during childbirth and breastfeeding, which creates a warm glow underpinning bonding with one's offspring (Lee et al., 2009). Oxytocin release also serves as the biological basis of greater feelings of contentment and calmness and lesser feelings of stress and anxiety—that is, trust and security with one's mate (Marazziti et al., 2006; Meyer, 2007).

For both males and females, oxytocin facilitates attraction and bonding to a partner (Feldman, 2012; McCall & Singer, 2012). In males, high levels of oxytocin promote greater commitment to a monogamous relationship (Scheele et al., 2012). For these reasons, oxytocin is often referred to as the “love hormone,” although it is more accurate to say that oxytocin release increases trust and decreases fear (Kirsch et al., 2005; Kosfeld et al., 2005).

Facial Metrics

Many stimuli arise from a sexual partner—chemical (smell), tactile (touch), auditory (voice), and visual (sight, appearance). The physical attractiveness of a potential partner is perhaps the most potent environmental stimulus that affects sexual motivation. Western cultures generally rate a slim body build for women as attractive (Singh, 1993a, 1993b). But such standards vary from one culture to the next, largely because these standards are acquired through experience, socialization, and cultural consensus (Mahoney, 1983). That said, some physical characteristics are viewed as universally attractive, including health (e.g., clear skin; Symons, 1992), youthfulness (Cunningham, 1986), and reproductive capacity (Singh, 1993a).

Both men and women rate slim females as attractive. Women's perceptions of male attractiveness, however, have little consensus as to what body shapes or body parts are seen as attractive (Beck, Ward-Hull, & McLear, 1976; Horvath, 1979, 1981; Lavrakas, 1975). The main predictor of women's rating of men's bodies is waist-to-hip ratio (WHR, a measure that ranges typically from 0.7 to 1.0; it is calculated via the narrowest circumference of the waist divided by the widest circumference of the hips/buttocks). Women rate moderately slim WHRs in males as most attractive (Singh, 1995).

The study of people's judgments of the attractiveness of facial characteristics is called *facial metrics* (Cunningham, 1986; Cunningham, Barbee, & Pike, 1990; Cunningham et al., 1995). Consider the face—and its facial metric parameters—shown in Figure 4.7.

1. Length of face—hairline to chin
2. Width of face—cheekbone to cheekbone
3. Width of face at mouth
4. Height of forehead—eyebrows to hairlines
5. Height of upper head—pupil to top of head
6. Height of eyes
7. Width of eyes
8. Width of pupil
9. Separation of eyes
10. Cheekbone width (#2 minus #3)
11. Nostril width
12. Nose tip width
13. Length of nose
14. Thickness of upper lip
15. Thickness of lower lip
16. Height of smile
17. Width of smile
18. Length of chin

The questions that link facial metrics with the study of sexual motivation are: On what dimensions do faces vary and Which of these dimensions determine which faces are most attractive? Interestingly, different cultures show an impressive convergence in terms of which facial characteristics are and are not considered attractive.

Faces vary considerably, and Figure 4.7 illustrates 18 different structural characteristics (e.g., eye size, mouth width, cheekbone prominence). Three categories explain which faces are judged as most attractive: neonatal features, sexual maturity features, and expressive features.

Neonatal features correspond to those associated with the newborn infant, such as large eyes and a small nose. Neonatal features are associated with attractive nonverbal messages of youth and agreeableness (Berry & McArthur, 1985, 1986).

Sexual maturity features correspond to those associated with postpubescent status, such as prominent cheekbones and, for males, thick facial and eyebrow hair. Sexual maturity facial metrics are associated with attractive nonverbal messages of strength, status, and competency (Keating, Mazur, & Segall, 1981).

Expressive features correspond to a wide smile/mouth and higher-set eyebrows. Expressive facial metrics are means to express positive emotions such as happiness and openness (McGinley, McGinley, & Nicholas, 1978).

Thus, a person's facial features communicate signals of youthfulness/agreeableness, strength/status, and happiness/openness. It is within these perceptions, which are based on implicit facial metric ratings, that a person makes a judgment of how attractive that person's face is. This conclusion raises an interesting slant on the question of whether beauty is in the eye of the

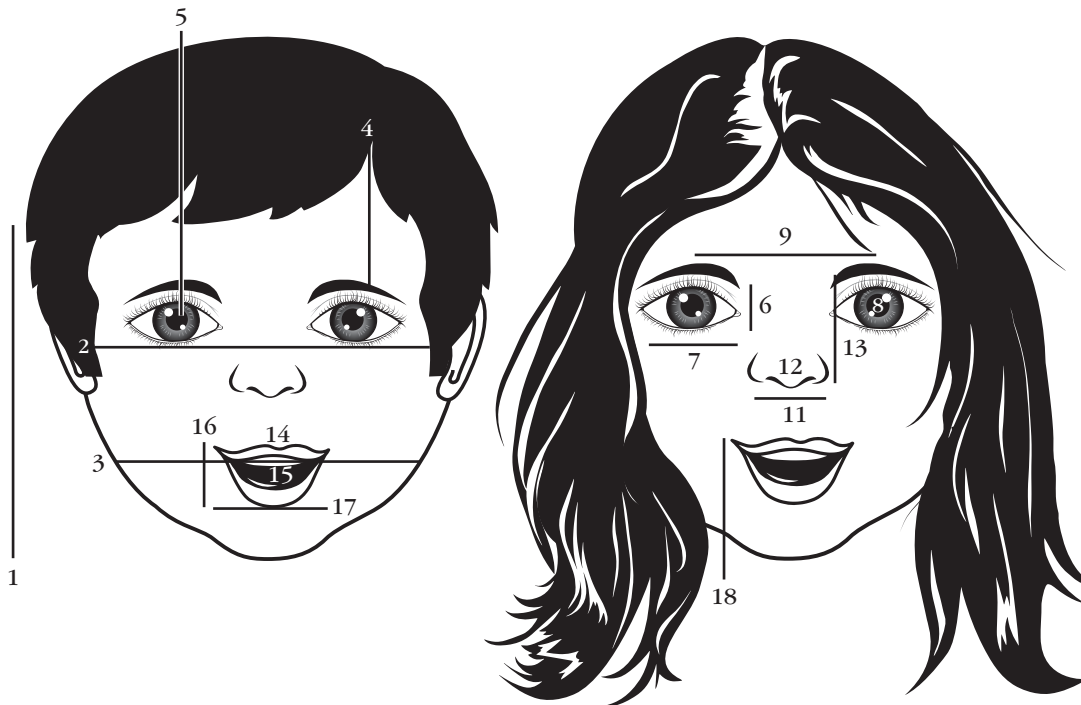


Figure 4.7 Facial Metric Parameters

beholder. In one sense, it is not, because facial metric ratings are objective features of faces that yield pan cultural consensus as to which faces are beautiful. That is, faces are beautiful. In another sense, however, it is, because a face is beautiful to the extent that the perceiver sees youth, status, or happiness-openness. It is youthfulness, status, and happiness-openness that are beautiful, and faces just happen to be a conduit to communicate that information about the person. That is, subjective perceptions of youth, status, and happiness-openness are beautiful.

Facial metrics research proceeds by showing dozens of different faces of men and women (via a PowerPoint presentation) to a group of opposite-sex heterosexual individuals (or same-sex homosexual individuals; Donovan, Hill, & Jankowiak, 1989). The individuals judge each face on a variety of dimensions (e.g., how attractive? how desirous as a sexual partner?), and the experimenters painstakingly measure each face on all the facial metric dimensions listed in Figure 4.7. With these data in hand, the researchers investigate the correlations that emerge between attractiveness ratings and the various facial characteristics. To get a more personal feel for such an experiment, look at the 25 different faces in Figure 4.8, and you will probably perceive in milliseconds that some of the faces are more attractive than are other faces. Given such different attractiveness perceptions, the question is, *Why?* Why is one face in Figure 4.8 more attractive than another? Answering this *Why?* question requires breaking down each face by the 18 facial metrics introduced in Figure 4.7.

Facial metrics predict attractiveness ratings for the faces of women (Cunningham, 1986), men (Cunningham et al., 1990), different cultures (Cunningham et al., 1995), and different ages (Symons, 1992). For women's faces, the facial metrics most associated with physical attractiveness are the neonatal features. Women with large eyes, a small nose, and small chin are seen as youthful and agreeable, hence as physically attractive. After all, there is a reason that every animated character (Bambi), stuffed animal, and Disney princess is drawn with huge eyes, a dot for a nose, and a tiny chin. Sexual maturity (cheekbone prominence) and expressive characteristics (eyebrow height and smile height and width) also add somewhat to attractiveness ratings of women's faces.



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Figure 4.8 Casual Smiling Faces Stock Image; 5 × 5 Close Ups of Happy, Smiling People

For men's faces, the facial metrics most associated with physical attractiveness are the sexual maturity features. Men with a prominent chin length and thick eyebrows are seen as strong and competent, hence physically attractive. Expressive features (smile height and width) also add somewhat to attractiveness ratings of men's faces.

Sexual Scripts

A sexual script is one's mental representation of the step-by-step sequence of events that occur during a typical sexual episode (Gagnon, 1974, 1977; Simon & Gagnon, 1986). A sexual script, not unlike a movie script, includes specific actors, the motives and feelings of those actors, and a set of verbal and nonverbal behaviors that should successfully conclude with sexual behavior. In its essence, the sexual script is the individual's storyline of what a typical sexual encounter involves. The young male learns to coordinate his sexual script to coincide with the three linear stages in the sex response cycle of desire (excitement), arousal, and orgasm (see Traditional Sex Response Cycle in Figure 4.6). For females, the coordination of sexual script and physical activity is looser, partly because the content of emerging sexual scripts contains little material that is sexual (from the male point of

view). The sexual content of the female is more likely to include events such as falling in love and emotional sharing (see the Alternative Sex Response Cycle in Figure 4.6).

With dating, both the male and female sexual scripts gain the opportunity of transitioning themselves from independent, fantasy-based scripts into an interpersonal, teamlike script. When the couple fails to coordinate their sexual scripts, their sexual episodes will likely be fraught with distress, conflict, and anxiety, and sexual performance is awkward and unsuccessful. But when workable sequences of sexual behavior become coordinated and conventionalized and focused as much on the other as on oneself, the couple's sexual scripts begin to have an adaptive, additive, and reeducative character that brings sexual and relational satisfaction (Simon & Gagnon, 1986).

In addition to harboring sexual scripts to guide their sexual episodes, people also harbor sexual schemas, or cognitive representations of their sexual selves (Andersen & Cyranowski, 1994). Sexual schemas are beliefs about the sexual self that are derived from past experiences that feature both positive-approach-oriented thoughts and behaviors (sexual desire, sexual participation) as well as negative-avoidance-oriented thoughts and behaviors (sexual anxiety, fear, conservatism, and sexual inhibition). These green-light (positive approach aspects) and red-light (negative avoidance aspects) elements of a person's sexual schema are important because sexual arousal is always a product of competing excitatory (desire) and inhibitory (anxiety) tendencies (Janssen, Vorst, Finn, & Bancroft, 2002).

Sexual Orientation

A key component of postpubescent sexual scripts is the establishment of sexual orientation, or one's preference for sexual partners of the same or other sex. Sexual orientation actually exists on a continuum, as about one-third of all adolescents have participated in at least one homosexual act (with more boys than girls having done so; Money, 1988). The sexual orientation continuum therefore extends from exclusively heterosexual through a bisexual orientation and continues to an exclusively homosexual orientation. Most adolescents rather routinely commit to a heterosexual orientation, but about 4 percent of males and 2 percent of females do not, and these percentages are higher if one includes a bisexual orientation.

Although not conclusive, research suggests that sexual orientation is not a choice; it is something that happens to the adolescent rather than something that is more deliberate or results from soul-searching (Money, 1988). Part of the explanation for why people develop a homosexual or heterosexual orientation is genetic (see the twin studies by Bailey & Pillard, 1991; Bailey, Pillard, Neale, & Agyei, 1993) and part of the explanation is environmental. Unfortunately, this literature is characterized more by rejected hypotheses than by confirmed ones. For instance, there is little evidence to support the idea that homosexuality emanates from a domineering mother and weak father (Bell, Weinberg, & Hammersmith, 1981) or from exposure to an older same-sex seducer (Money, 1988). The most promising research frontiers in understanding sexual orientation are those in genetics (Bailey & Pillard, 1991; Hamer et al., 1993) and in the prenatal hormonal environment (Berenbaum & Snyder, 1995; Kelly, 1991; Paul, 1993). For instance, the prenatal hormonal environment (concentrations of androgens, estrogens in the womb) does predict later adolescent sexual orientation.

Evolutionary Basis of Sexual Motivation

Sexual motivation and behavior have an obvious evolutionary function and basis (reproduction and the survival of the species). In an evolutionary analysis, men and women are hypothesized to have evolved distinct psychological mechanisms that underlie their sexual motivations and mating strategies (Buss & Schmitt, 1993). Compared to women, men have short-term sexual motivations, impose less stringent standards, prioritize physical attractiveness and youth, and value chastity in mates.

Compared to men, women value signs of a man's resource, social status, ambition, earning potential, and promising career potential (Buss & Schmitt, 1993; Sprecher, Sullivan, & Hatfield, 1994).

Evolutionary psychologists start with the assumptions that sexual behavior is strongly constrained by genes and that genes determine one's mating strategies at least as much as (and often more so than) does rational thought. Furthermore, genes keep the evolutionary message simple: Men want young, attractive mates; women want powerful, high-status mates.⁶

To appreciate men's and women's different mating strategies, access an online dating service website to view the personal ads (Baize & Schroeder, 1995; Harrison & Saeed, 1977; Wiederman, 1993). Men look for something akin to a trophy wife/mate. Likewise, the more attractive the woman is, the more she demands from a potential mate in terms of status and wealth. In turn, the higher the man's social status and wealth, the more he expects in terms of a woman's looks. This same mating strategy preference can be seen during speed-dating (i.e., a series of brief face-to-face interactions with a dozen potential partners). Speed-dating men highly prefer physically attractive women, women highly prefer men with strong earning prospects, and everyone prefers "personable" partners, although these ideal preferences interestingly did not predict follow-up dating behavior (Eastwick & Finkel, 2008).

Although these conclusions are blatantly sexist, they nonetheless represent the expressed preferences of men and women. Such preferences might not be consistent with cultural aspirations, but they are consistent with evolutionary aspirations. However, this sexist mating strategy hypothesis might be limited to only some people. It seems that "likes attract," because women who think a lot about their appearance do strongly prefer men of high status, just as do men who think a lot about their wealth and status are very picky about a woman's youth and looks (Buston & Emlen, 2003). However, when men and women value in themselves factors other than status and attractiveness (e.g., family commitment, sexual fidelity), then they tend to prefer mates with these characteristics as much as mates with high status or attractiveness. Even using an evolutionary perspective, the homely mate can make the best mate if he or she is a great parent to the offspring. Related to this last point, it is interesting to note that while women rate highly muscular men as sexier and more physically dominant, what women rate as most attractive is moderate (not extreme) muscularity, and this is partly because moderately muscular men are expected to be more committed to the relationship than are their highly muscular counterparts (Frederick & Haselton, 2007).

People actually have multiple mating strategies. They consider first the "necessities" and then the "luxuries" (Li, Bailey, Kenrick, & Linsenmeier, 2002). At the "must have" necessities level, men value physical attractiveness and youth and women value status and resources. As they consider possible mates, men really want to know first and foremost that a woman is at least average in physical attractiveness, and women want to know first and foremost that a man is at least average in social status. Both sexes also rate intelligence and kindness as necessities.

If the potential mate passes the so-called necessities test, then men and women begin to consider luxuries such as a sense of humor, creativity, and an exciting personality. The conclusion is that men and women possess what amounts to "mating budgets" (men have some level of status to spend and bargain with, whereas women have some level of attractiveness to spend and bargain with), and these mating budgets are first spent on securing the minimal necessities—must be at least average on intelligence, kindness, and, depending on sex, status or attractiveness—next spent on acquiring a sufficient level of these necessities, and finally spent on luxuries that might make for more interesting interactions but that hold little reproductive value (Kenrick, Groth, Trost, & Sadalla, 1993).

⁶Some differences emerge when examining the preference of homosexuals (Bailey, Gavlin, Agyei, & Gladue, 1994), as homosexual (like heterosexual) males rate the physical attractiveness of their partners as very important but, unlike heterosexual males, they do not show a strong preference for younger partners and are not as prone to sexual jealousy.

SUMMARY

A need is a condition within the person that is essential and necessary for life, growth, and well-being. Three categories of needs exist, including deficiency-based physiological needs (e.g., hunger), growth-oriented psychological needs (e.g., competence), and implicit or unconscious needs (e.g., affiliation).

Thirst, hunger, and sex are physiological needs. The anchor for the chapter was Hull's biologically based drive theory (Figure 4.2). According to drive theory, physiological deprivations and deficits give rise to bodily need states that stimulate neural structures, which in turn give rise to a psychological drive, which motivates the consummatory behavior that results in drive reduction. Then, as time goes by, the physiological deprivations recur, and the cyclical process repeats itself. In outlining the regulatory process for thirst, hunger, and sex, the chapter introduced seven core regulatory processes: physiological need, psychological drive, homeostasis, negative feedback, multiple inputs and outputs, intraorganismic influences, and extraorganismic influences. One concept—that of homeostasis—has dominated the study of physiological needs for the last 60 years.

Thirst is the consciously experienced motivational state that readies the person to perform behaviors necessary to replenish a water deficit. Its activation and satiety are rather straightforward, biologically speaking. Water depletion inside (intracellular thirst) and outside (extracellular thirst) the cells activate thirst. Water restoration satiates thirst, especially when ingested water hydrates the cells. Drinking behavior (that is not necessarily related to thirst) is influenced further by extraorganismic variables, such as a sweet taste, addictions to alcohol and caffeine, and cultural prescriptions such as “drink eight glasses of water per day.”

Hunger and eating involve a complex regulatory system of both short-term (glucostatic hypothesis) and long-term (lipostatic hypothesis, including set-point theory) regulation. According to the glucostatic hypothesis, glucose deficiency stimulates eating by activating the LH, whereas glucose excess inhibits eating by activating the VMH. According to the lipostatic hypothesis, a shrunken stomach releases hormones such as ghrelin to stimulate the LH to generate hunger and motivate eating, while extended fat cells release hormones such as leptin to stimulate the VMH to generate satiety and stop eating. Eating behavior (that is not necessarily related to hunger) is influenced further by environmental incentives such as the sight, smell, and taste of food, the presence of others, situational pressures such as a group norm, and the effort to establish a cognitively regulated eating style. Dieting, for instance, represents a person's attempt to supplant involuntary physiological controls with voluntary cognitive controls. Such a cognitively regulated eating style has implications associated with bingeing, restraint release, weight gain, and obesity. A comprehensive model of hunger regulation is offered (Figure 4.5).

Sexual motivation rises and falls in response to a host of factors, including hormones, activation of the subcortical brain's reward center, external stimulation, external cues (facial metrics), cognitive scripts, sexual schemas, and evolutionary pressures. Sexual motivation in the human male is relatively straightforward because desire reflects physiological forces such as the triphasic sexual response cycle (desire–arousal–orgasm), a close correlation between erectile response and psychologically felt desire, relatively homogeneous sexual scripts, and stereotypical mating preferences and strategies (i.e., physical attractiveness, youth). Sexual motivation in women is more complex, because women's sexual response cycle involves emotional intimacy needs, the correlation between genital response and psychological desire is low, sexual scripts and sexual schemas are heterogeneous and influenced significantly by the hormone oxytocin. For both males and females, sexual orientation is not so much a personal choice as it is a downstream developmental outcome of genetics and hormonal exposure in the prenatal environment.

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Extrinsic Motivation and Internalization

EXTRINSIC MOTIVATION

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AMOTIVATION

SUMMARY

READINGS FOR FURTHER STUDY

Consider three people trying to decide what to do.

The company CEO wants to increase worker productivity. He observes that some employees are highly engaged and productive while others are less so. The CEO decides to create an ABC system in which the top 10 percent of employees are rated as A players, the middle 80 percent are rated as B players, while the bottom 10 percent are rated as C players. To motivate employees, fat raises and generous stock options will be given to the A players, modest annual salary raises to the B players, and nothing to the C players, except a pink slip (a notice slipped into the paycheck to communicate that you are fired). The thinking is that the offering of very attractive incentives and rewards will lead employees to make the motivational adjustments necessary for greater productivity and success. The CEO believes that the best way to motivate employees is to implement a company-wide program in which rewards and punishers are offered in a strategic way (based on Byrne & Welsh, 2001).

Miles away, a bus carrying dozens of young men comes to a stop at 1:50 in the morning at the Marine Corps boot camp on Parris Island, South Carolina. Before the men have a chance to step off the bus, a drill instructor charges onto the bus barking orders and giving commands, expecting each word to lead to immediate compliance. The “forming” has begun. The drill instructor wants to promote desired behavior and extinguish undesired behavior. For the rest of the evening, the young men will hear as many as 15 commands per minute, such as “Let’s go. Now. Move. Move! *Move!*” The emphasis is on heavy discipline, or what the young recruits will soon learn is “heavy D.” For the next 10 weeks, the drill instructor’s commands will be ever present to ensure that the young recruits wake up promptly, dress properly, show proper respect, clean their weapons correctly, and do a hundred other actions the Marine way. Every mistake is met with immediate and severe punishment. If all goes according to plan, what happens over those 11 weeks is that, one by one, a civilian is turned into a Marine (based on Ricks, 1997).

Now consider yourself. You go outside, get in the car, and start up the engine. For some reason, you just cannot find within yourself the motivation to buckle up. But the car manufacturer has anticipated your seatbelt apathy. The car manufacturer wants to increase the probability that you will buckle up. After a few seconds, a red warning light appears on the panel and then several seconds later an irritating “bing, bing, bing” begins and continues until you buckle up. As you sit in the car contemplating whether to buckle up, that irritating noise keeps binging in your ear. If you are like most of us, you too will reach for the seatbelt and buckle up, not necessarily in the name of safety but simply to escape from what is irritating (based on Geller, Casali, & Johnson, 1980).

Alluring stock options, loud commands, and obnoxious buzzers illustrate how external events can generate motivational states. These three examples could have been about many other environmental incentives that stir us to action, such as grades in school, frequent flyer mileage points when choosing which airline to fly, or sticker charts and token economies in special education. People do not inherently want to engage in the behaviors required to receive these incentives; rather, the motivation comes from something fully separate from the activity itself—namely, the incentive. Basically, when attractive incentives are at stake, people do what they need to do to obtain the payoff; and when aversive incentives are at stake, people do what they need to do to rid themselves of the irritants. Because incentives and rewards exert such a strong and reliable effect on behavior, people such as CEOs, drill instructors, and automobile manufacturers often embrace extrinsic motivation as a strategy for tilting people’s decision making away from apathy and listlessness toward wanting and action.

Practically every environment we find ourselves in discriminates between desirable and undesirable behaviors. The environment communicates “do this more” and “do that less.” Furthermore, practically every environment rewards us in one way or another for performing those desired behaviors and punishes us for performing those undesired behaviors. While driving, for instance,

desirable behaviors include staying on your side of the road, driving 30 miles per hour on city streets, and making sure your exhaust pipe is not billowing out a cloud of black smoke. If drivers forego such desirable behaviors, the environment will rather quickly deliver an array of punishers, such as honks of the horn, speeding tickets, and steely-eyed stares from people with pro-environment bumper stickers. As a result, we generally follow our hedonistic tendencies (approach pleasure, avoid pain) and engage in those courses of action we believe will produce reward and prevent punishment.

EXTRINSIC MOTIVATION

Causal observation of day-to-day behavior suggests that our internal needs are sometimes silent, or at least somewhere on the back burner of consciousness. In schools, students are sometimes apathetic and disinterested in the school's curriculum. At work, employees are sometimes listless and slow to apply themselves. In hospitals, patients sometimes feel little desire to exercise and are reluctant to take their medicines. Such observations suggest that people do not always generate their own motivation from within. Instead, people sometimes turn passive and look to the environment to supply motivation for them. In school, teachers see this lack of inner motivation and, in response, they use grades, stickers, praise, privileges, and threats of doom to motivate their students. At work, employers use paychecks, bonuses, surveillance, competitions, and threats of termination to motivate their employees. In hospitals, doctors use orders, appeals to please loved ones, and implicit threats (e.g., "If you don't exercise more, then...") to motivate their patients. Such are the external events that constitute the incentives and consequences that generate extrinsic motivation.

Extrinsic motivation arises from environmental incentives and consequences, such as food, money, praise, attention, stickers, gold stars, privileges, tokens, approval, scholarships, candy, trophies, extra credit points, certificates, awards, smiles, public recognition, a pat on the back, prizes, and various incentive plans. Extrinsic motivation arises from some consequence that is separate from the activity itself (from a consequence that is extrinsic to—or separate from—the activity). Whenever we act to gain a high academic grade, win a trophy, make a quota, or impress our peers, the presence of incentives and consequences creates a sense of wanting to engage in those contingent behaviors that will produce the sought-after consequences.

Extrinsic motivation arises from a "Do this and you will get that" behavioral contract; it exists as an "in order to" motivation ("Do this in order to get that"). The "this" is the requested or desired behavior, and the "that" is the extrinsic incentive or consequence. It is also a "what's in it for me?" type of motivation. With extrinsic motivation, the answer is always to get an attractive environmental incentive (e.g., get money) or to remove an aversive environmental incentive (e.g., quiet criticism). Hence, the advice for "How do I motivate others?" is simple: "Offer an environmental incentive."

INCENTIVES AND CONSEQUENCES

The study of the environmental regulation of motivation revolves around the language of operant conditioning. The term *operant conditioning* refers to the process by which a person learns how to operate effectively in the environment. "Operating effectively" means learning to engage in behaviors that produce attractive consequences (e.g., approval, money) while also learning not to engage in behaviors that produce aversive consequences (e.g., criticism, rejection). To communicate the language of operant conditioning, Baldwin and Baldwin (1986) offer the following conceptualization of motivated action:

$$S : R \rightarrow C$$

In this three-term model, S , R , and C stand for situational cue (i.e., incentive), behavioral response, and consequence, respectively. The colon between S and R (stimulus and response) shows that the situational cue sets the occasion for (but does not cause) the behavioral response. The arrow between R and C shows that the behavioral response causes a consequence to happen. Having the attention of a group of friends (S), for instance, does not cause a storyteller to recite jokes (R), but the group does serve as a cue or signal to engage in a class of behaviors such as storytelling ($S:R$). Once told, the jokes cause the friends' reactions (C), such as laughter or ridicule ($R \rightarrow C$).

This section is about both sides of the equation above. The first half of the equation ($S:R$) explains the motivational significance of incentives. Incentives are like the “ding, ding, ding” noise in the car trying to get you to buckle up your seatbelt. Incentives solicit, draw out, and even bribe behavior out of people that they would not otherwise freely wish to do—like buckling up the seatbelt. The second half of the equation ($R \rightarrow C$) explains the motivational significance of consequences. Consequences are like the big raises (rewards) and pink slips (punishers) offered by the CEO. Consequences make it more likely that the reward-recipient will repeat that same behavior in the future, such that the reward essentially strengthens the probability of that behavior.

Incentives

An incentive is an environmental event that attracts or repels a person toward or away from initiating a particular course of action. Incentives always precede behavior (i.e., $S:R$), and, in doing so, they create in the person an expectation that attractive or unattractive consequences are forthcoming. Some positive incentives might include a smile, an inviting aroma, the presence of friends, and an envelope that looks like it holds a check. Some corresponding negative incentives might include a grimace, a spoiled smell, the presence of enemies, and an envelope that looks like junk mail.

The incentive value of an environmental event is learned through experience. Car noises do not bring heart-stopping fear to people until that noise has proven in the past to be a reliable predictor that disaster is right around the bend. Similarly, the sight of a particular person is not an attractive or aversive incentive until experience teaches us that this person probably brings ridicule and rejection (a bully) or humor and friendship (a friend). It is this learning process (this “conditioning”) that shapes our later goal-directed behavior, because positive incentives cue approach behavior while negative incentives cue avoidance behavior.

These examples might appear to confound what constitutes an incentive and what constitutes a consequence. Both are external events that direct behavior, but two important differences exist. Incentives differ from consequences on the basis of (1) when each occurs and (2) how it motivates behavior. Incentives always precede behavior ($S:R$) and attract or repel the *initiation* of behavior. Consequences always follow behavior ($R \rightarrow C$) and increase or decrease the *persistence* of behavior.

Reinforcers

From a practical point of view, defining a reinforcer is easy. It is any environmental object or event that increases behavior. If someone smiles while you are talking to her and the steady stream of smiles keeps you talking, then the smiling reinforces your talking. Similarly, if you get a paycheck for going to work and the offering of the paycheck keeps you coming to work, then the paycheck reinforces your coming to work.

From a theoretical point of view, however, the definition is more difficult. Theoretically, a reinforcer must be defined in a manner that is independent from its effects on behavior. The problem

with defining a reinforcer solely in terms of its effects on behavior is that its definition becomes circular: The cause produces the effect (reinforcers increase behavior), but the effect justifies the cause (increased behavior means that it must be a reinforcer). Hence, in practice, the only way to identify a reinforcer is to actually give it and then wait and see if the reinforcer will increase behavior. Researchers and practitioners, however, have no means of identifying a reinforcer *before* using it. The challenge is therefore to know ahead of time whether the reinforcer will work—that is, will increase behavior (Timberlake & Farmer-Dougan, 1991).

To get out of this circular quagmire, the researcher needs to select an extrinsic event never used before on a particular person (e.g., candy bar, field trip to the zoo) and know *a priori* whether it will or will not increase the sought-after desired behavior. In the history of motivation research, each of the following has been used to explain *why* reinforcers increase behavior:

1. It decreases drive (Hull, 1943). Food reinforces behavior because it satiates hunger—reinforcers decrease drive.
2. It decreases arousal (Berlyne, 1967). A drug reinforces behavior because it has a calming effect—reinforcers decrease anxiety.
3. It increases arousal (Zuckerman, 1979). A rock concert reinforces behavior because it stimulates and excites—reinforcers increase arousal.
4. It is attractive to the person (Skinner, 1938). Money reinforces behavior because it is valued—reinforcers are attractive objects.
5. It feels good (Olds, 1969). Electrical stimulation of the nucleus accumbens reinforces behavior because it is pleasurable—reinforcers feel good.
6. It makes it possible to do something fun (Premack, 1959). Completing one thing (your homework, a “low-frequency” behavior) makes you eligible to do something you really enjoy doing (your smartphone, a “high-frequency” behavior).

Managing Behavior

Consider again a practical perspective. One study used various reinforcers to encourage an 8-year-old to wear an orthodontic device (Hall et al., 1972). The parents quickly observed that the child had little intrinsic motivation to wear the device, so they sought to create in the child an extrinsic motivation to wear the gear. The parents kept track of the percentage of time their child wore the orthodontic device (five observations per day at random times, such as at breakfast or when coming home from school). Wearing the orthodontic device constituted the desired behavior, at least from the parents’ point of view. In the first week (with no positive reinforcer), the child wore the device 25 percent of the time. Researchers typically refer to this pre-reinforcer period of time as the “baseline” measure—how frequently the desired behavior occurs on its own.

The parents then began to praise their child each time they saw him wearing the orthodontic gear. Parental praise was the reinforcer for the desired behavior—wearing the orthodontic gear. With praise, the child wore the gear 36 percent of the time. For the next two weeks, the parents administered a delayed monetary reward. Each time the parents saw the child wearing the gear, they promised 25 cents at the end of the month. With money on the line, compliance increased to 60 percent. For a two-week period, the parents next administered an on-the-spot (immediate) 25-cent reward for any observed compliance. Compliance zoomed up to 97 percent. For the next five days, the child received no positive reinforcers for compliance (a second baseline period). Compliance dropped to 64 percent. Finally, for two weeks, the parents reintroduced the immediate 25-cent reward, and the child’s compliance returned to near-100 percent.

This study highlights two considerations about the nature of reinforcers. First, reinforcers vary in their quality. Money worked better than praise. For this child, money was a higher-quality reward

than was praise. Second, the immediacy at which a reinforcer is delivered partly determines its effectiveness. Receiving money immediately changed behavior more than did a delayed payoff.¹

Consequences

There are two types of consequences: reinforcers and punishers. Among reinforcers, there are two types—positive and negative. So, overall, there are three types of consequences: positive reinforcers, negative reinforcers, and punishers.

Positive Reinforcers

A positive reinforcer is any environmental stimulus that, when presented, increases the future probability of the desired behavior. Approval, paychecks, and trophies operate as positive reinforcers that occur after saying thank you, working a 40-hour week, and practicing athletic skills. What makes the approval, paycheck, or trophy a positive reinforcer is its capacity to increase the probability that the behaviors of being polite, working hard, or practicing for hours will recur in the future. That is, the person who receives the positive reinforcer becomes more likely to repeat the behavior. Additionally offered positive reinforcers in the culture include money, praise, attention, grades, scholarships, approval, prizes, food, awards, trophies, public recognition, and privileges.

Rewards

An extrinsic reward is any offering from one person given to another person in exchange for his or her service or achievement (Craighead, Kazdin, & Mahoney, 1981). Thus, when a teacher promises a special privilege if her students will participate more or when a workplace manager gives a “thumbs up” to acknowledge an employee’s successful performance, the teacher and the manager offer a reward (prize, thumbs up) in exchange for another’s service (participate more) or achievement (successful performance). Because extrinsic rewards are often confused with positive reinforcers, rewards and reinforcers need to be distinguished. The distinction is that all positive reinforcers are rewards, while only some rewards function as positive reinforcers (because not all rewards increase behavior). That is, rewards sometimes do and sometimes do not work. This is a very important practical point to make because people use rewards liberally and often irrespective of whether those rewards actually reinforce behavior. After all, does the teacher’s offer of a special privilege really increase students’ subsequent classroom engagement, and does the manager’s offer of a thumbs up gesture increase worker’s job performance? Rewards are therefore best seen as only potential “maybe this will work” motivators.

Do Rewards Work?

People often get excited about the prospect of receiving an extrinsic reward. Why? Why do rewards enliven positive emotion and increase desired behavior?

¹In addition to quality and immediacy, four other characteristics of a reward determine what is or is not a reinforcer. First, a reinforcer can be effective for one person but not for another, suggesting that the person/reinforcer fit is as important as is any particular characteristic of the reinforcer per se. Attention and candy might prove effective for young children (and ineffective for adults), whereas a job promotion and stock options might prove effective for adults (and ineffective for young children). Second, the same reinforcer can be effective for a person at one time but ineffective at another time. A cup of coffee might increase behavior early in the morning, but it may prove ineffective at night. Third, reinforcers vary in their intensity. A dollar is typically a more effective reinforcer than is a penny, and a \$20 bill is typically a more effective than a dollar. Last, the rewards that administrators (e.g., parents, teachers, employers, therapists, coaches) think will work best often do not correspond to what their recipients actually find to be reinforcing (Green et al., 1988; Pace et al., 1985; Smith, Iwata, & Shore, 1995). For example, a parent might give a child a big hug, thinking the child highly values hugging, although the child might rather have a bowl of chocolate pudding. Thus, six considerations determine a positive reinforcer’s effectiveness: (1) its quality, (2) its immediacy, (3) the person/reinforcer fit, (4) the recipient’s need for that particular reward, (5) its intensity, and (6) the recipient’s perceived value of the reinforcer.

Six reasons were given earlier in the chapter—because they decrease drive, decrease arousal, increase arousal, are attractive to the person, feel good, and make it possible to do something fun. What all six of these explanations have in common can be understood by returning to Chapter 3 on the neuroscience of motivation. What all behavior-energizing rewards do is trigger dopamine release to signal the possibility of personal gain or reward (D’Ardenne, McClure, Nystrom, & Cohen, 2008). Environmental stimuli (positive reinforcers, rewards) that increase dopamine release generate positive feelings, such as hope and enthusiasm, energize approach behavior, direct that behavior toward the attainment of the reward, and sustain that goal-directed action until the reward is attained. Thus, an extrinsic reward enlivens positive emotion and facilitates reward-directed behavior because it signals the opportunity for a personal gain.²

In practice, the offering of an extrinsic reward means that personal gain is imminent and that the situation has suddenly taken an unexpected turn for the better. Routine and expected life events leave the subcortical brain unexcited, and dopamine release does not occur. However, when events take an unexpected turn for the better (one receives a signal from the environment that personal gain is imminent), then dopamine release and behavioral approach occur as the brain inherently latches onto the environmental signal of the unexpected gain. Therefore, rewards work—rewards increase desired behavior—when they signal an unexpected and imminent personal gain. As rewards become routinely predictable (the supervisor gives the same “thumbs up” gesture day-after-day-after-day), they lose their capacity to trigger dopamine release and hence lose their capacity to energize reward-directed behavior (D’Ardenne et al., 2008).

Negative Reinforcers

A negative reinforcer is any environmental stimulus that, when removed, increases the future probability of the desired behavior. Like positive reinforcers, negative reinforcers increase behavior. Unlike positive reinforcers, negative reinforcers are aversive, irritating stimuli. The shrill ring of the alarm clock is an aversive, irritating stimulus. Stopping the ringing is negatively reinforcing when it increases the probability that the would-be sleeper gets out of bed. In the same way, medicine that removes headache pain is a negative reinforcer that increases the sufferer’s willingness to take this same medicine in the future (i.e., removing pain negatively reinforces taking medicine). Additionally offered negative reinforcers in the culture include whining, nagging, crying, surveillance, deadlines, time limits, a pet’s incessant meowing or barking, and all sorts of pain.

It is relatively easy to visualize the approach behavior motivated by positive reinforcers, but some examples are needed to illustrate how negative reinforcers motivate escape and avoidance behaviors. Escape removes a person from an aversive stimulus; avoidance prevents the aversive stimulus from occurring in the first place (Iwata, 1987). Consider how people escape from the sound of the alarm clock by getting out of bed, escape from the car buzzer by buckling a seatbelt, and escape from a whining child by leaving the room. Once we discover which behaviors are effective in removing us from the noise, buzzer, or whining, we tend to repeat these same escape maneuvers when the noise, buzzer, or whining return. We repeat them because we have learned that each is a tried-and-true escape strategy. To prevent the aversive stimuli from occurring in the first place, however, people learn to get out of bed early (to avoid the noise), to buckle up before starting the car (to avoid the buzzer), and to stay away from the child (to avoid the whines). Escape behaviors are reactive against aversive stimuli; avoidance behaviors are anticipatory or proactive in preventing them in the first place.

²This neuroscientific analysis on reward can be considered a modern update on Thorndike’s (1932) well-known law of effect. According to the law of effect, behaviors that have good effects tend to become more frequent, whereas behaviors that have bad effects tend to become less frequent. “Good effects” in a neuroscientific analysis are defined by dopamine release in the subcortical brain’s reward center.

Punishers

A punisher is any environmental stimulus that, when presented, decreases the future probability of the undesired behavior. Criticism, jail terms, and public ridicule operate as punishers that occur after dressing sloppily, stealing another person's property, and endorsing antisocial attitudes. What makes the criticism, a jail term, or public ridicule a punisher is its capacity to decrease the probability that the behaviors of dressing carelessly, stealing property, and voicing antisocial attitudes will recur in the future. That is, the person who receives the punisher is less likely to repeat the behavior.

From a behaviorist's point of view, the idea is this: You can engage in the undesirable behavior but suffer the aversive (punishing) consequence, or you can choose not to engage in the undesirable behavior and be spared the aversive (punishing) consequence. It is your strategic choice. That is, you can continue to dress sloppily, steal property, or endorse antisocial attitudes, but you will have to pay the price of doing so (in the form of criticisms, jail terms, and public ridicule).

Much confusion exists in discriminating punishers from negative reinforcers. The reason for the confusion is because both types of consequences utilize aversive stimuli. For instance, when parents yell, complain, and reprimand children for not cleaning their room, do the parents administer negative reinforcers or punishers?

The parent's reprimand is a punisher if its intent is to suppress the child's future room-cluttering behavior. Punishers say, "Stop it!" "Stop what you are doing!" The reprimand is a negative reinforcer, however, if the child dutifully cleans his or her room to escape from or to avoid the reprimand before it occurs. Negative reinforcers say, "Do it!" "Do something now so you won't get grief later." Punishers decrease (undesirable) behavior; negative reinforcers increase (escape and avoidance) behavior.

When most people think of punishers, what comes to mind are aversive punishers. This makes sense because aversive punishers are *very* commonly used in the culture. But a second type of punisher exists and is also widely used—a response cost. Response costs suppress behavior by imposing the cost of losing some attractive resource if one engages in the undesirable behavior. The loss of the attractive resource is a "cost" for the "response" of enacting the undesired behavior. Examples of frequently used response costs include a suspended driver's license to suppress drunk driving, a toy or a privilege taken away to suppress a child's ill manners, a \$200 ticket to suppress parking in a handicapped space, a \$5 fee to suppress using a live teller at the bank, and being grounded to suppress staying out past curfew. While punishers deliver aversive stimuli and response costs remove desirable stimuli, what they have in common is that they both send the same message: "Stop it!"

Do Punishers Work?

The use of punishers is ubiquitous. To deter and to stop people's undesirable behavior, we criticize, give cold looks, complain, take privileges away, spank, and utilize dozens of other extrinsic events to get other people to stop doing whatever undesirable behavior they are doing. But research shows that punishment is actually an ineffective motivational strategy—popular but ineffective (Baldwin & Baldwin, 1986). Worse, punishment reliably generates a number of worrisome and unintentional "side effects," including negative emotionality (it induces crying, screaming, and feeling afraid), an impaired relationship between punisher and punishee, and negative modeling of how to cope with undesirable behavior in others. Overall, not only do punishers not work, they also induce negative emotion, ruin relationships, and teach others an ineffective behavior modification strategy.

Perhaps one of the most controversial uses of punishment is corporal punishment, or spanking (Gershoff, 2002). Parents (and others) spank their children for different reasons, but mostly they spank to gain the child's immediate compliance to stop the undesirable behavior. Typically, this is spanking's intended consequence, as shown in the upwardly sloped line in Figure 5.1. The downwardly sloped line in Figure 5.1 also identifies 11 unintended consequences or side effects of corporal punishment. Children who are spanked are more likely in the future to show aggression, antisocial

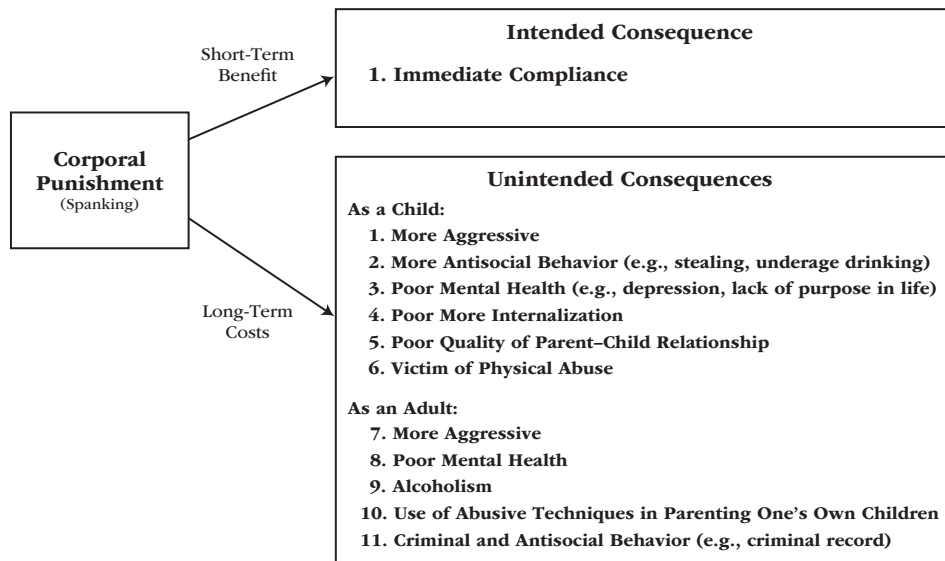


Figure 5.1 Immediate and Long-Term Consequences of Corporal Punishment (Spanking)

behavior, poor mental health, poor moral internalization, an impaired parent–child relationship, and, as adults, aggression, poor mental health, alcoholism, abusive behavior, and criminal behavior.

Looking over the consequences of corporal punishment, one sees little merit in spanking as a motivational strategy (Gershoff, 2002). It does yield its intentional consequence (albeit only for a few minutes), but it also yields a flurry of unintentional, undesirable, and long-term consequences. In fact, a motivational and behavioral analysis of any punisher will yield the same conclusion—it may produce temporary compliance, but it will do so at the cost of a landslide of very developmentally detrimental side effects. Overall, spanking, like any punisher, is a woefully poor motivational strategy.

If spanking is not to be recommended, then what does work? In the case of dealing with another person’s undesirable behavior, there is wisdom in the old adage “Prevention works better than remediation.” Punishment is a remedial strategy. What works is prevention, and prevention works best when the request to stop doing the undesired behavior is offered within the context of a supportive, nurturing, high-quality relationship in which the message is not “stop it, you are irritating me” but, rather, is “I care about you, I’m worried that you are not coping very well, and I want to work collaboratively with you to figure out how to adjust effectively to life so that you will be happy and competent.” This latter sentiment concerns a phenomenon known as “internalization,” which will be discussed in detail later in the chapter.

Other preventive strategies include differential reinforcement (or “catch them being good”), scaffolding (or tutoring in how to cope more effectively), and observational learning (or modeling an alternative, desired behavior). These latter three strategies are generally effective, and they are effective when the person leaves the role of a “punisher” and, instead, becomes a “reinforcer” (differential reinforcement), a “coach” (scaffolding), or a “role model” (observational learning).

HIDDEN COSTS OF REWARD

Okay, punishers do not work. But rewards work, right? To answer this question, we need to introduce another motivational phenomenon into the discussion—namely, intrinsic motivation.

Intrinsic Motivation

Intrinsic motivation is the inherent desire to seek out novelty and challenge, to explore and investigate, and to stretch and extend one's capacities (Ryan & Deci, 2017). It is a natural inclination toward exploration, spontaneous interest, and environmental mastery that emerges from innate strivings for personal growth and from experiences of psychological need satisfaction. It is the motivation to seek out what is interesting, and it is the principal source of enjoyment and vitality (Ryan, 1995).

As illustrated in Figure 5.2, people experience intrinsic motivation because they have psychological needs, which is the subject matter of Chapter 6. Psychological needs, when they are environmentally supported, nurtured, and satisfied (e.g., “I feel competent doing this task”), spontaneously give rise to the experience of intrinsic motivation. That is, intrinsic motivation is the expression of psychological need satisfaction. As the person fills in a challenging crossword puzzle or travels with a friend, intrinsic motivation arises out of the spontaneous satisfaction of feeling autonomous, feeling competent, and feeling related to others. When intrinsically motivated, the task the person is engaged in provides a steady stream of opportunities for the person to feel free (autonomy), effective (competence), and emotionally close (relatedness). When people feel autonomous, competent, and related to others, they express their intrinsic motivation by saying, “That’s interesting,” “That’s fun,” or “I enjoy doing that.”

The discussion of intrinsic motivation at this point is important because it shows that people have at least two different ways to go about the task of trying to motivate others. One strategy would be to promote extrinsic motivation. The way to promote extrinsic motivation is to offer attractive incentives and consequences to induce or “incentivize” desired behavior. A second strategy, however, would be to promote intrinsic motivation. The way to promote intrinsic motivation is to support an experience of psychological need satisfaction—to create environmental opportunities for people to feel free, competent, and emotionally close. The benefits of promoting extrinsic motivation are clear—you get compliance and you put yourself in position to manage or gain control over other people’s desired and undesired behaviors. Your child brushes her teeth, your students complete their worksheets, and

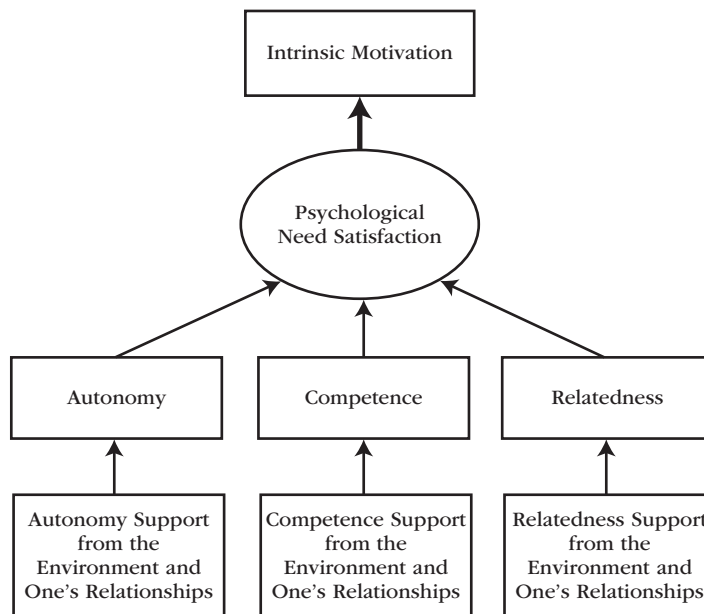


Figure 5.2 Origins of Intrinsic Motivation

your employees all show up on time to work. The benefits of promoting intrinsic motivation may be less clear, so a brief discussion is warranted.

When intrinsically motivated, people show initiative, pursue their interests, act spontaneously and creatively, strive to learn, strive to extend themselves and their capabilities, process information deeply and conceptually, show greater task persistence, successfully change their behavior in an intentional way, and experience greater positive emotion, vitality, and well-being. Intrinsic motivation is a growth-facilitating motivation (Amabile, Hennessey, & Grossman, 1986; Grolnick & Ryan, 1987; Joussemet & Koestner, 1999; Jang, Reeve, & Halusic, 2016; Katz, Assor, Kanat-Maymon, & Bereby-Mayer, 2006; Moller, Deci, & Ryan, 2006; Vansteenkiste & Deci, 2003; Vansteenkiste et al., 2004, 2005).

Intrinsic Motivation versus Extrinsic Motivation

The research on the distinction between intrinsic and extrinsic motivation began with this question: If a person is involved in an intrinsically interesting activity and begins to receive an extrinsic reward for doing it, what happens to his or her intrinsic motivation for that activity? (Deci & Ryan, 1985a, p. 43). For example, what happens to the motivation of the student who reads for the fun of it after she then begins to receive money from her parents for reading? One might suppose that rewarding reading behavior with a monetary prize would add to her motivation. Common sense argues that if a person enjoys reading and is also financially rewarded for it, then the intrinsic (enjoyment) and extrinsic (money) motivations should sum to produce super-motivation. And if you ask people to make predictions about what happens to a person's motivation under these conditions, increased super-motivation is what most people will predict (Hom, 1994; Murayama, Kitagami, Tanaka, & Raw, 2016).

Super-motivation does not occur. Rather, the imposition of an extrinsic reward to engage in an intrinsically interesting activity typically undermines (has a negative effect on) future intrinsic motivation (Deci, 1971; Deci, Koestner, & Ryan, 1999; Lepper, Greene, & Nisbett, 1973; Wiechman & Gurland, 2009). The reward's adverse effect on intrinsic motivation is termed a "hidden cost of reward" (Lepper & Greene, 1978) because society typically regards rewards as positive contributors to motivation (Boggiano et al., 1987). People use rewards expecting to gain the benefit of increasing another person's motivation and behavior but, in doing so, they often incur the unintentional and hidden cost (i.e., side effects) of undermining that person's intrinsic motivation toward the activity.

Consider what happens in the brain when people are promised attractive rewards if they will engage in an interesting activity (Murayama, Matsumoto, Izuma, & Matsumoto, 2010). Participants were randomly assigned into either a reward or a no-reward condition, and all participants then engaged in a challenging and fun task. All participants played the game twice, and their neural activations in the subcortical brain's reward center (ventral striatum; Chapter 3) were measured. During session 1, participants in the no-reward condition showed significant subcortical brain activations, and they continued to show significant subcortical brain activations during session 2. In other words, the task was fun the first time, and it was still fun the second time. During session 1, participants in the reward condition were promised a monetary reward for playing the game (e.g., you will gain \$2 for each successful trial), but they were not offered this same reward during session 2. During session 1, when there was reward to be gained, participants showed strong subcortical brain activations. During session 2, when the reward was no longer available, the previously strong neural activations fully disappeared. Playing the challenging game for no reward after first playing it for reward produced literally nothing in terms of subcortical brain reward activations. Simply put, initially playing the game for an attractive reward undermined the task's later capacity to produce intrinsic motivation.

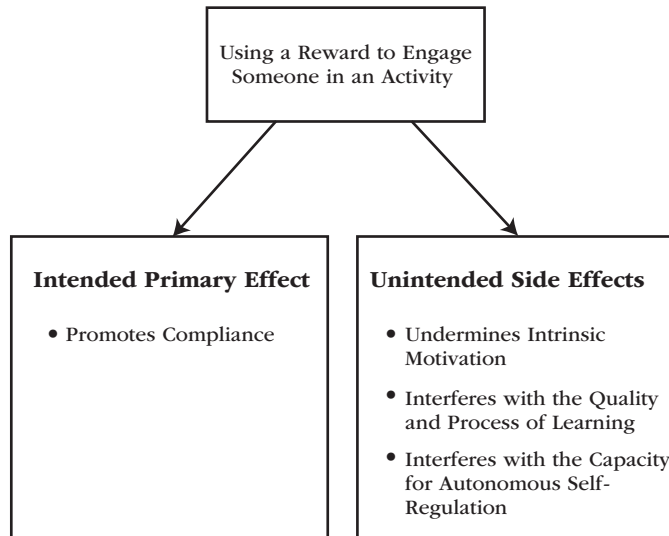


Figure 5.3 Intended and Unintended Effects of Extrinsic Rewards

Extrinsic rewards can have positive effects on motivation and behavior, as illustrated by the earlier orthodontic gear example. But extrinsic forms of motivation almost always come with a price—hidden costs (see Figure 5.3). Undermining intrinsic motivation is a hidden cost of rewards, but there are additional hidden costs as well (Condry, 1977, 1987; Deci & Ryan, 1987; Kohn, 1993; Wiechman & Gurland, 2009). Extrinsic rewards also interfere with the process and quality of learning. When rewards are at stake, the learner’s goals shift away from attaining mastery and learning per se in favor of just getting the reward (Harter, 1978b; Pittman, Boggiano, & Ruble, 1983). The reward-motivated learner is also more likely to attend to factual information and to getting a quick answer (thereby gaining the reward) at the expense of optimally challenging him- or herself, searching for a creative solution, or conceptually understanding the material and its relevance to the person’s life (Benware & Deci, 1984; Harter, 1978b; Vansteenkiste et al., 2004, 2005). And when rewards are involved, learners typically quit as soon as some reward criterion is attained (e.g., reading only the 100 pages required for the test). When rewards are not involved, learners generally persist until curiosity is satisfied, interest is exhausted, or mastery is attained (Condry, 1977; Condry & Chambers, 1978).

Extrinsic rewards also interfere with the person’s autonomous self-regulation (Lepper, 1983; Ryan, 1993). After a history of always being rewarded for doing something (e.g., cleaning your room, mowing the lawn), reward recipients understandably begin to have difficulty regulating their behavior when not offered the reward (Joussemet, Koestner, Lekes, & Houliort, 2003). The person wonders, “Why should I do it? What is in it for me?” This reward dependency occurs because the presence versus absence of rewards—rather than intrinsic motivation and autonomous self-regulation—regulates the behavior, such as whether to mow the lawn (the initiation of behavior) and when to stop mowing the lawn (when I’ve done enough to get the reward vs. when the job has been done well). If the environment stops offering rewards, then the person who is unable to regulate their behavior autonomously will have a difficult time finding the needed motivation within themselves. They will be motivationally empty.

As a personal example, you might ask yourself when and why you read this textbook—when you are curious and interested to learn about human motivation and emotion (intrinsic motivation) or when you have a test tomorrow (extrinsic motivation). The more times you read this book

out of extrinsic motivation, the rarer and rarer will be those future times when you read out of intrinsic motivation (i.e., your reading will become increasingly test-, assignment-, deadline-, and teacher-dependent).

The psychological need for autonomy (Chapter 6) provides one way for understanding the hidden costs of reward (Deci & Ryan, 1987). When experimental participants are paid money (Deci, 1972; Wiechman & Gurland, 2009), promised an award (Lepper et al., 1973), promised a toy (Lepper & Greene, 1975), threatened with a punisher (Deci & Casio, 1972), given a deadline (Amabile, DeJong, & Lepper, 1976), given a directive (Koestner et al., 1984), involved in competitive pressure (Reeve & Deci, 1996), or watched over as they work (i.e., surveillance; Pittman et al., 1980), these participants gradually lose their perception of autonomy and show decreased intrinsic motivation. In other words, when rewards are at stake, the person's reason for engaging in the activity becomes less and less intrinsic (e.g., "I enjoy reading") and more and more extrinsic ("I get money and high grades"). What was once "play" has become "work." Basically, coercing people to engage in a task, even when using unquestionably attractive rewards like money, instigates a shift in their understanding of why they chose to engage in that task from one of autonomy to one of environment (Deci et al., 1999). You might think that people could engage in a task for both reasons—for intrinsic interest and for extrinsic reward—but being promised and receiving attractive reward instead polarizes people's understanding of why they engaged in the task to the point that they discount the intrinsic reason and replace it with the extrinsic one (Wiechman & Gurland, 2009).

Early experiments by Mark Lepper and his colleagues nicely illustrate the hidden costs of extrinsic rewards (Greene & Lepper, 1974; Lepper & Greene, 1975, 1978; Lepper et al., 1973). Preschool children with a high interest in drawing were grouped into one of three experimental conditions: expected reward, no reward, and unexpected reward. In the expected reward group (extrinsic motivation), children were shown an extrinsic reward—an attractive Good Player certificate featuring the child's name and a big blue ribbon—and asked if they wanted to draw in order to win the reward. Children did find this reward attractive. In the no reward group (intrinsic motivation), children were simply asked if they wanted to draw. In the unexpected reward group, children were asked if they wanted to draw, but they unexpectedly received the Good Player certificate after the drawing was over. One week later, the experimenters provided the children with another opportunity to draw during their free time. During this second week, children who drew in order to win the certificate (expected reward group) spent significantly less time drawing than did children in the other two groups. In effect, children in the expected reward group lost their intrinsic motivation to draw. The no reward and unexpected reward groups showed no such decline. The interest maintenance of the unexpected reward group is important because it shows that the extrinsic motivation (rather than the reward per se) caused children's decreased interest in drawing.

In interpreting these findings, one might feel a bit of skepticism and muse over the fact that the sample of participants included preschoolers, the experimental task was drawing, and the reward was a certificate. Perhaps one might then conclude that the findings have little to do with more complex adult motivations. These findings, however, have been replicated over 100 times using adults, different tasks, and different rewards (Deci et al., 1999). Such an avalanche of empirical evidence leads to the conclusion that "the undermining effect is a reality after all" (Deci et al., 1999).

In accepting the generality of the negative effects (i.e., "the hidden costs") of extrinsic motivation, one might turn the tables and ask whether rewards always decrease intrinsic motivation. This is precisely what psychologists did ask next. After three decades of research, the conclusion is that extrinsic rewards do generally undermine intrinsic motivation, but not always (Deci, Koestner, & Ryan, 1999; Eisenberger, Pierce, & Cameron, 1999; Rummel & Feinberg, 1988; Wiersma, 1992). In particular, two factors explain which types of rewards most decrease intrinsic motivation: expectancy and tangibility.

Expected and Tangible Rewards

People often engage in behaviors in order to receive a reward. If, however, the person engages in the behavior with no such knowledge of a reward yet still receives a reward once the task is completed, then the reward is an unexpected one. The earlier study with children drawing for Good Player certificates (Lepper et al., 1973) showed that rewards decrease intrinsic motivation only when the person expects that his or her task engagement will yield a reward. The telltale sign that a person expects a reward for task participation is the presence of an if-then or an in-order-to orientation, such as, “If I read this book, then I can watch TV.” Expected rewards undermine intrinsic motivation, while unexpected rewards do not (Deci et al., 1999).

A second factor in understanding which rewards undermine intrinsic motivation is the distinction between tangible and verbal rewards. Tangible rewards, such as money, awards, and food, generally decrease intrinsic motivation, whereas verbal (i.e., intangible) rewards, such as praise and positive feedback, do not (Anderson, Manoogian, & Reznick, 1976; Blank, Reis, & Jackson, 1984; Dollinger & Thelen, 1978; Swann & Pittman, 1977). In other words, rewards that one can see, touch, feel, and taste generally decrease intrinsic motivation, whereas those that are verbal and symbolic do not.

Implications

The two limiting factors of expectancy and tangibility suggest that rewards decrease intrinsic motivation only when they are expected and tangible. This conclusion is a sort of good news/bad news message. The good news is that extrinsic rewards can be used in a way that does not put intrinsic motivation (and learning and autonomous self-regulation) at risk. The bad news is that our society so often relies on expected and tangible rewards to motivate others. Money, bonuses, paychecks, prizes, trophies, scholarships, privileges, grades, gold stars, awards, honor-roll lists, incentive plans, public recognition, food, frequent flyer miles, and so on are ubiquitous incentives in Western societies (Kohn, 1993). In practice, therefore, it is not so comforting to say that only expected and tangible extrinsic rewards will decrease intrinsic motivation because so many rewards are offered to people in precisely this way.

Benefits of Extrinsic Motivation

External regulation is not always bad or counterproductive (Covington & Mueller, 2001). Recognizing this, researchers and practitioners alike have tried to use rewards in ways that minimize the sort of detrimental effects illustrated in Figure 5.3. One way to do this, as discussed earlier, is to use rewards that are unexpected and verbal (e.g., praise) and refrain from using those that are expected and tangible (e.g., bribes). A second means is to intentionally limit their use to tasks that have low intrinsic interest but high social importance.

A key practical question is whether extrinsic motivators will have detrimental effects on *uninteresting* tasks. In other words, if a person has little or no intrinsic motivation toward the task to undermine, then intrinsic motivation is not likely to be put at risk by the offering of a reward. Indeed, research shows that the negative impact of extrinsic rewards on intrinsic motivation is limited to interesting activities (Deci et al., 1999), because extrinsic rewards have no effect—not an undermining effect, not a facilitating effect—on a person’s intrinsic motivation for uninteresting tasks.

Incentives, consequences, and rewards have their benefits. Rewards can make an otherwise uninteresting task suddenly seem worth pursuing. As long as the reward is attractive enough, rewarded individuals will engage in almost any task. Children will eagerly wash dishes if it means

that doing so will gain them a new toy. This is typically not so with unrewarded children, because washing dishes is just not an intrinsically interesting thing to do. Without a reward at stake, those dishes stay piled in the sink. In applied settings, behaviorists often promise rewards if their clients perform behaviors like being on time, showing assertiveness, and participating in a group discussion. They do so because their experience tells them that, without a reward at stake, their clients will not engage in these sorts of low-interest behaviors.

Consider the value of extrinsic motivators in the following instances in which researchers used rewards to increase socially important but intrinsically uninteresting tasks:

- Developing daily living skills, such as dressing (Pierce & Schreibman, 1994)
- Getting motorists to stop at stop signs (Van Houten & Retting, 2001)
- Increasing participation in recycling (Austira, Hatfield, Grindle, & Bailey, 1993)
- Increasing participation in energy conservation (Staats, Van Leeuwen, & Wit, 2000)
- Motivating children to start their homework (Miller & Kelley, 1994)
- Teaching autistic children to initiate a conversation (Krantz & McClannahan, 1993)
- Increasing the elderly's participation in physical activity (Gallagher & Keenan, 2000)

Given that rewards can promote desirable behavior on uninteresting tasks, some practitioners come to the practical conclusion that it is fine and well to use extrinsic motivators when another person's intrinsic motivation is low (Witzel & Mercer, 2003). This is not, however, necessarily true. Consider the following four reasons not to use extrinsic motivators, even for intrinsically uninteresting endeavors (Kohn, 1993):

1. Extrinsic motivators still undermine the quality of performance and interfere with the process of learning.
2. Using rewards distracts attention away from asking the hard question of why another person is being asked to do an uninteresting task in the first place.
3. There are better ways to encourage participation than extrinsic bribery, as discussed in the last section of the chapter.
4. Extrinsic motivators still undermine the individual's long-term capacity for autonomous self-regulation.

When all is said and done, many people believe that extrinsic motivators simply carry too high a psychological and developmental cost in terms of intrinsic motivation, learning, and autonomous self-regulation. Plus, there are much better ways to motivate people to engage in uninteresting activities.

COGNITIVE EVALUATION THEORY

When people use incentives and consequences, they generally seek to create in others an extrinsic motivation to engage in a particular activity. Much of the spirit behind the use of an extrinsic motivator is therefore to shape, influence, or outright control another person's behavior. Sometimes the attempt to control is obvious (e.g., using money to bribe a child to wear orthodontic gear), but other times it is more seductive (e.g., giving free soft drinks at a bar to anyone agreeing to be a designated driver; Brigham, Maier, & Goodner, 1995). Thus, one purpose behind almost any extrinsic motivator is to control or manage another person's behavior.

But there is a second purpose. Incentives and rewards also provide feedback that informs the person about her competence at the task. Rewards such as money, awards, good grades, academic scholarships, and verbal praises not only function to increase behavior (i.e., control behavior) but

also to communicate a message of a job well done (i.e., inform competence). This insight on the dual function of rewards raises the practical question of *why* a person gives rewards to another—Is it to control the other's behavior, or it is to inform the other's competence?

Cognitive evaluation theory asserts that *all* external events have both a controlling aspect and a competence-informing aspect (Deci & Ryan, 1985a). The theory presumes that people have psychological needs for autonomy and competence (Chapter 6). Furthermore, it is the controlling aspect of an external event that affects the person's need for autonomy, whereas it is the informational aspect that affects the person's need for competence. The theory applies to the offering of incentives and rewards, but it also applies further to the offering of any and all external events. Formally, cognitive evaluation theory exists as the set of three propositions.

According to Proposition 1, external events (e.g., offer a choice) that promote an internal perceived locus of causality (PLOC) promote autonomy and intrinsic motivation. External events (e.g., offer a reward) that promote an external PLOC decrease autonomy and instead promote extrinsic motivation. Proposition 1 therefore asks, Is the purpose of the extrinsic event to control another person's behavior? If not, autonomy and intrinsic motivation will be preserved; if so, autonomy and intrinsic motivation will be undermined as extrinsic motivation replaces intrinsic motivation—as an external PLOC replaces an internal PLOC.

According to Proposition 2, external events that increase perceived competence (e.g., offer praise) promote intrinsic motivation, whereas events that decrease perceived competence (e.g., offer criticism) undermine it. Proposition 2 therefore asks, Is the purpose of the extrinsic event to inform another person's sense of competence? If so, perceived competence and intrinsic motivation will rise and fall to the extent that the external event communicates positive versus negative effectance information.

The contribution that the first two propositions offer for a comprehensive understanding of the motivational significance of incentives, consequences, and rewards is this: External events affect not only a person's *behavior* but, in addition, a person's *psychological needs*.

Proposition 3 ties together the first two propositions into a full theoretical statement. According to Proposition 3, the relative salience of whether an event is *mostly controlling* or *mostly informational* determines its effects on intrinsic and extrinsic motivation. Relatively controlling events undermine intrinsic motivation (via their harmful effect on autonomy) and promote extrinsic motivation. Relatively informational events increase intrinsic motivation (via their beneficial effect on competence). It is in Proposition 3 that the usefulness of cognitive evaluation theory becomes apparent. The reader can use cognitive evaluation theory to predict—in advance of its offering—the effect that *any* extrinsic event will have on intrinsic and extrinsic motivations, as discussed in Box 5. The essential question in understanding and predicting how an external event will affect a person's motivation and behavior becomes, Why am I giving another person this external event—to control behavior or to inform competence?

Two Examples of Controlling and Informational Events

Any external event—praise, money, feedback, a scholarship, surveillance, deadlines, interpersonal competition, an attendance policy, a grading system, and so on—can be administered in a relatively behavior-controlling way or in a relatively competence-informing way. Consider praise and competition.

Praise

Praise sometimes functions as an extrinsic event to control another's behavior, but it also sometimes functions to inform another's competence (Henderlong & Lepper, 2002; Hewett & Conway, 2015). A supervisor using praise, for instance, might communicate praise in an informational way, saying,

BOX 5 *Predicting How Any External Event Will Affect Motivation*

Question: Why is this information important?

Answer: So that you can predict, in advance, what effect *any* external event will have on motivation.

When teachers put stickers on children's homework, they hope the stickers will motivate the children to work hard. When employers give end-of-the-year holiday bonuses, they hope the money and recognition will motivate the workers to work hard. The logic is: Since stickers and money are good and desirable, then the children's and workers' motivation will probably increase in a positive way.

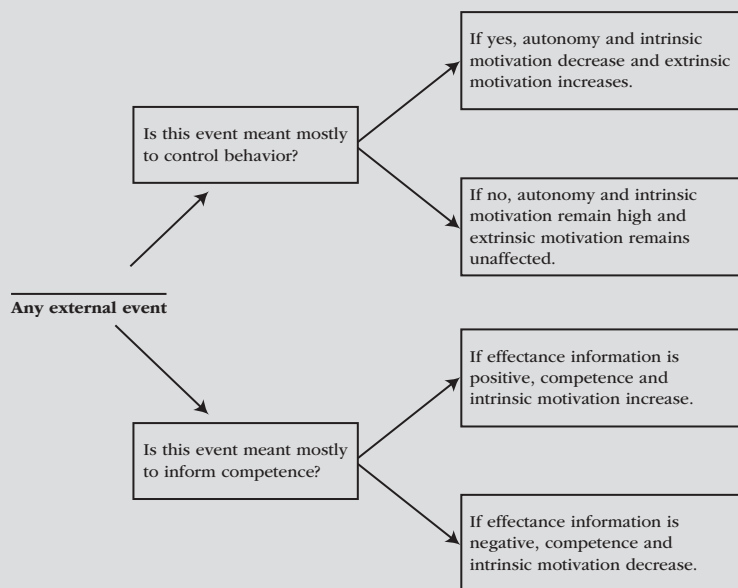
Why a reward is given is at least as important as what is given. A sincere pat on the back can enhance motivation even more than can a big fat check, if the check has strings attached to it. Basically, the purpose behind the reward (Why is this person giving me this reward?) is more important than is the reward itself, motivationally speaking. Understanding how any external event affects another person's motivation is the domain of cognitive evaluation theory. The theory can be articulated in the accompanying flowchart.

To make sense of the figure, first mentally write in the blank line (on the left) any external event. A teacher, for instance, might be interested in the motivational effects of

external events such as stickers, grades, praise, tests, deadlines, video clips, a cooperative learning exercise, a group discussion, a class requirement, or an attendance policy. Next, working from left to right, determine the external event's purpose, or functional significance. Is the event being offered to control behavior and to get kids to be quiet, clean their desks, or do their assigned homework, or is it being offered to inform competence, to celebrate an accomplishment, to acknowledge progress, or to affirm a job well done? In particular, which of these two aspects is relatively more salient?

If the external event is used largely to control behavior, then its motivational effect will be to decrease autonomy, decrease intrinsic motivation, and increase extrinsic motivation. If the external event is used to communicate a job well done, then its motivational effect will be to increase competence and increase intrinsic motivation. If the external event communicates a job poorly done (e.g., criticism, disappointed look), it will decrease competence and hence decrease intrinsic motivation.

Notice that in predicting how any external event will affect another person's motivation, the critical question is not what the external event is but, rather, *why* one person administers it to another—to control behavior or to communicate competence.



“Excellent job, your productivity increased by 10%.” The supervisor might, however, communicate praise in a controlling way, saying, “Excellent job, you did just as you should.” Tagging phrases such as “just as you should have done” and “as I expected you to do” onto the praise gives the feedback a tone of pressure (Ryan, 1982) and compliance (Ryan, Koestner, & Deci, 1991). In contrast, providing clear, specific, and competence-diagnosing feedback typically gives praise a highly informative function (Brophy, 1981). For example, the praise, “Excellent job, I noticed that you greeted the customer warmly and with a sincere tone in your voice,” speaks informatively to an employee’s sense of competence. It just says, “I think you are very good (highly competent) at what you just did.” The conclusion is that the motivational effect is not in the praise per se but in the way it is administered (Deci & Ryan, 1985a; Ryan et al., 1983). It is not so much what you say as it is why and how you said it.

Competition

A second illustration can be seen in the case of competition (Reeve & Deci, 1996). When the social context puts a good deal of pressure on winning (with its evaluative audience, screaming coaches, headline-seeking newspaper reporters, championship trophies, scholarship implications, career prospects), competitors usually compete with a sense of contingency and pressure (e.g., I just *have* to win.). When experienced in such a controlling way, competition decreases intrinsic motivation because competitors care relatively little about the task or the sport or the game itself and relatively much about the reward of winning (Deci, Betley, et al., 1981; Vallerand, Gauvin, & Halliwell, 1986). Even when people win a high-pressure competition, they still show impoverished intrinsic motivation (Deci, Betley, et al., 1981; Reeve & Deci, 1996). However, when the social context places little emphasis on winning (recreational competition, no audience present, no trophy or scholarship on the line, an autonomy-supportive coach), then competition’s informational aspects (e.g., winning, improving, making progress) often become more salient (Standage, Duda, & Pensgaard, 2005). Winning, improving, and making progress promote perceived competence and hence increase intrinsic motivation (McAuley & Tammien, 1989; Reeve, Olson, & Cole, 1985). Even after a person loses in competition, intrinsic motivation can still be high if that person feels he or she performed competently (e.g., above a personal standard; Vansteenkiste & Deci, 2003).

The moral of the story is that for intrinsic motivation to flourish, both competence and autonomy must be high (Fisher, 1978), and for both competence and autonomy to be high, the offered external event—such as praise or competition—needs to be presented in a way that is both noncontrolling and competence informing.

TYPES OF EXTRINSIC MOTIVATION

As shown in Figure 5.4, three distinct types of motivation exist: amotivation, extrinsic motivation, and intrinsic motivation (Ryan & Deci, 2000, 2017). These three different types of motivation can be organized along a continuum of autonomy or self-determination. On the far left-hand side is amotivation, which literally means “without motivation,” a state in which the person is neither intrinsically nor extrinsically motivated (e.g., a dropout student, disillusioned athlete, or apathetic marriage partner). In the middle of the figure are four types of extrinsic motivation that can be distinguished from one another on the basis of their degree of autonomy: external regulation (not at all autonomous), introjected regulation (somewhat autonomous), identified regulation (mostly autonomous), and integrated regulation (fully autonomous). On the far right-hand side, intrinsic motivation reflects the individual’s full endorsement of autonomy. Overall, the self-determination continuum varies from apathy, to compliance, to self-control, to personal valuing, to identity-integration, to interest and enjoyment (Ryan & Deci, 2000).

Identifying types of motivation is important because the amount of autonomy within any motivational state has a substantial effect on what people feel, think, and do. The more autonomous

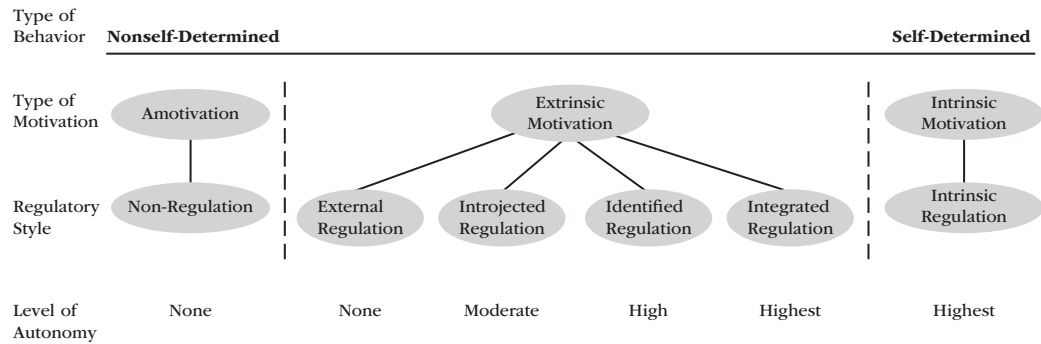


Figure 5.4 Self-Determination Continuum Showing Types of Motivation

one's motivation is (i.e., the farther to the right-hand side of Figure 5.4 one's motivation is), the more effort the person puts forth and the more productive that effort is in terms of learning, performance, and achievement (Ryan & Connell, 1989), and this is true when people try to lose weight (Williams et al., 1996), regulate their diabetes (Williams, Freedman, & Deci, 1998), recover in an alcohol-treatment program (Ryan, Plant, & O'Malley, 1995), brush and floss their teeth and go to the dentist (Munster Halvari, Halvari, Bjørnebekk, & Deci, 2010), eat healthy foods (Pelletier, Dion, Slovenic-D'Angelo, & Reid, 2004), experience relationship intimacy (Blais, Sabourin, Boucher, & Vallerand, 1990), help others (Weinstein & Ryan, 2010), adhere to an exercise program (Ryan et al., 1997), persist in a competitive sport year after year (Pelletier, Fortier, Vallerand, & Brière, 2001), search for a job (Vansteenkiste et al., 2004), and engage themselves in political (Koestner, Losier, Vallerand, & Carducci, 1996) or religious (Ryan, Rigby, & King, 1993) activities.

Table 5.1 focuses specifically on the four types of extrinsic motivation and, to do so, uses the example of recycling (e.g., Why do you recycle?; Pelletier et al., 1998). As can be seen by the illustrative quotations, people engage in external regulation largely out of external compulsions, pressured compliance, and to gain an attractive but extrinsic reward (i.e., no autonomy). People engage in introjected regulation largely out of internal compulsions, self-control, ego-involvement, and to avoid emotions such as guilt and shame (i.e., little autonomy). However, people who engage in activities out of identified and integrated regulation do so largely because they want and choose to (i.e., they act autonomously)—because they sincerely believe that the activity is important, valuable, and worthwhile (i.e., identified regulation and high autonomy) or because such behavior reflects who they are

Table 5.1 Four Types of Extrinsic Motivation, Illustrated by Different Reasons of “Why I Recycle”

| Type of Extrinsic Motivation | External Contingency at Stake | The reason I recycle is ... | Illustrative Quotation |
|------------------------------|--------------------------------|-------------------------------------|---|
| External Regulation | Incentives, consequences | “to get or to avoid a consequence.” | “I recycle to make 5 cents on each can.” |
| Introjected Regulation | Avoid guilt, boost self-esteem | “because I should.” | “I recycle because I ought to, if I am going to feel good (rather than guilty) about myself.” |
| Identified Regulation | Valuing, sense of importance | “because it is important.” | “I recycle because it is important for a cleaner environment.” |
| Integrated Regulation | Value congruence | “because it reflects my values.” | “I recycle because it reflects and expresses who I am and what I believe.” |

as a person—their very sense of self (i.e., integrated regulation and very high autonomy). In each case, the behavior (e.g., recycling) is both inherently uninteresting and extrinsically motivated—it is done in order to receive some outcome that is separate from the activity itself.

External Regulation

External regulation is the prototype of non-self-determined extrinsic motivation. Externally regulated behaviors are performed to obtain a reward, avoid a punisher, or satisfy some external demand. For the person who is externally regulated, the presence versus absence of extrinsic motivators (e.g., rewards, threats) regulates the rise and fall of motivation. A person who is externally regulated typically has a difficult time beginning a task unless there is some external prompt to do so. A student, for instance, begins to study only when a test is coming or begins to write a term paper only when the deadline nears. Without the test or the deadline, the externally regulated student lacks the motivation necessary to study or to write. Relative to the other three types of extrinsic motivation, people who are motivated through external regulation show poor functioning and poor outcomes (Deci & Ryan, 1987; Ryan & Connell, 1989; Ryan & Deci, 2017).

Introjected Regulation

Introjected regulation involves taking in, but not truly accepting or self-endorsing, other people's demands to think, feel, or behave in a particular manner. Introjection is the partial or incomplete taking in of an outside belief or regulation. Introjected regulation is essentially being motivated out of guilt and the "tyranny of the shoulds" (Horney, 1937). In essence, the person, acting as a proxy for the external environment, emotionally rewards him- or herself for performing other-defined good behavior (feel proud) and emotionally punishes him- or herself for performing other-defined bad behavior (feel shamed or guilty).

The person with high introjected regulation says that she "should," "just has to," and "must" believe this or that. Therefore, partial internalization has occurred, but the internalization is kept at an arm's length, so to speak, instead of being really integrated into the self in an authentic and volitional way. The telltale sign that only partial internalization has occurred is that the person feels tension, pressure, and conflict in carrying out the introjected-motivated behavior (e.g., "I don't really want to, but I just *have* to study tonight!"). Introjected beliefs and behaviors can sometimes be quite harsh, as when the person is highly self-critical for failing to meet a personal standard or a social expectation (Powers, Koestner, & Zuroff, 2007). Notice, however, that introjected regulation does include the changing of internal structures because the behavior is regulated not by explicit external contingencies but rather by internalized representations of those contingencies (i.e., a parent's voice, cultural expectations).

Identified Regulation

Identified regulation represents mostly internalized and autonomous (or self-determined) extrinsic motivation. With identified regulation, the person voluntarily accepts the merits and utility of a belief or behavior because that way of thinking or behaving is seen as personally important or useful. Thus, if a student comes to believe that extra work in mathematics is important (e.g., it has utility for a career in science) or if an athlete comes to believe that practice on his or her technique, posture, or pre-performance routine is important, the motivation to study and to practice are extrinsic yet freely chosen. Extra work in mathematics or in sport is extrinsic because these behaviors are instrumental to other aims (a career as a scientist, become a tennis pro), yet they are freely chosen because they are perceived to be useful and valuable for one's life. Exercising, helping others, and driving an electric car provide additional examples of identified regulation, because many people exercise, help, and

avoid polluting not because they enjoy doing these things but because they value what such behaviors can do for them, for their relationships, and for the environment (Pavey, Greitemeyer, & Sparks, 2012). Because these ways of thinking and behaving are valued and deemed as personally important, people internalize and identify with them. And by internalizing them, these ways of thinking and behaving become *self*-determined and freely enacted.

Integrated Regulation

Integrated regulation constitutes the most autonomously endorsed type of extrinsic motivation. While internalization is the process of taking in a value or a way of behaving (“identifying” with it), integration is the process through which individuals fully transform previously identified values and behaviors into the self (Ryan & Deci, 2017). Integrated regulation is as much a developmental process as it is a type of motivation, because it involves the self-examination necessary to bring new ways of thinking, feeling, and behaving into an unconflicted congruence with the self’s pre-existing ways of thinking, feeling, and behaving. That is, integration occurs as otherwise isolated identifications (e.g., “Recycling water bottles is not fun, but I want to do it to benefit the environment.”) into coherence and congruence with the self (e.g., “I am an environmentalist.”). Because it is the most self-determined type of extrinsic motivation, integrated regulation is associated with the most positive outcomes, such as prosocial development and psychological well-being (Ryan & Deci, 2017; Weinstein, Deci, & Ryan, 2011; Weinstein, Przybylski, & Ryan, 2013).

INTERNALIZATION AND INTEGRATION

Internalization refers to the process through which an individual transforms a formerly externally prescribed regulation (rule), behavior, or value into an internally endorsed one (Ryan et al., 1993). It is an acquisition (or socialization) process of taking in beliefs and behaviors from external sources (e.g., other people, media, the law). With internalization, a person might “take in” the police person’s regulation to stop the car fully at each stop sign, “take in” a parent’s prescribed behavior to brush one’s teeth for a full 30 seconds, or “take in” a society’s value for education or honesty. That is, the person voluntarily adopts the value, behavior, or regulation prescribed by other people (or society).

Internalization is more than socialization. This is because internalization is an active, intentional, person-initiated process. We want others to teach us how to drive a car, act at religious ceremonies, adjust to new circumstances, and be a better and more productive member of the community. Wanting these things (these values, behaviors, and regulations), we actively seek out opportunities to internalize what will enhance our competence, promote our relatedness with others, and advance the goals we have set for ourselves. So, in one sense, internalization is an outside-in socialization process, as parents teach their children the value of various behaviors but, in another sense, internalization is a self-initiated process, as the child seeks out to acquire and take in those behaviors he or she thinks promote more effective functioning.

Integration refers to the further transformation of these internalized values, behaviors, and regulations into the person’s sense of self to the point that they actually arises from and emanate out of the self (Ryan & Deci, 2000). With full integration, the person him- or herself—not the environment and not the society—generates the value, behavior, or regulation.

With integration, a person reflects on the merits of the internalized values, beliefs, and regulations and assesses the extent to which they are or are not consistent with his or her own sense of self (Weinstein, Przybylski, & Ryan, 2013). After a period of reflection and a judgment of personal ownership, some internalized regulations are kept at an arm’s length: “I know exercising is important; I know it is a healthy thing to do; but it is just not who I am; it is not how I see myself. I value it, but I don’t own it.” Other internalizations, however, are fully integrated into the self, and when they are, integration occurs. The integrated beliefs exist in harmony or congruence with other aspects of the

self. How autonomous a person is in his or her various values, behaviors, and regulations is important because this degree of integration is a strong predictor of how prosocial, competent, well-adjusted, and happy that person is (Deci & Ryan, 2000; Downie, Koestner, ElGeledi, & Cree, 2004; Pavey et al., 2012; Pelletier et al., 2004; Ryan & Deci, 2017).

Motivating Others on Uninteresting Activities

People face a difficult motivational problem when they attempt to motivate others (or themselves) to engage in uninteresting, but worthwhile, activities. Examples of such undertakings might include parents asking their children to wash their hands before dinner, teachers asking students to complete a worksheet, and workplace managers asking workers to be polite to rude customers. One solution to such motivational problems is to use an incentive to prompt the other person into doing whatever it is you want, as with a parent saying, “If you wash your hands, then you’ll get ice cream for dessert; but if you don’t, then there will be no dessert.” In this case, the want of the ice cream motivates compliance, not the personal valuing of washing one’s hands. When people use incentives, consequences, and rewards to motivate others to engage in an uninteresting activity, they hope to reframe the uninteresting activity away from something “not worth doing” into something that is suddenly “worth doing.” The problem with using expected and tangible rewards is that they yield only compliance, low-quality learning, minimal functioning (poorly washed hands), and a dependence on further external regulation (i.e., low maintenance of the desired behavior). Recognizing that external contingencies are associated with poor functioning and unintended side effects, researchers have explored ways to motivate others to engage in and benefit from uninteresting activities, including providing an explanatory rationale and suggesting interest-enhancing strategies.

Explanatory Rationales

The first way to promote volitional engagement during an uninteresting activity is to offer an explanatory rationale—a verbal explanation as to why putting forth effort during the otherwise uninteresting activity might actually be a personally useful and important thing to do (Assor, Kaplan, & Roth, 2002; Deci, Eghrari, Patrick, & Leone, 1994; Grolnick & Ryan, 1989; Husman & Lens, 1999; Jang, 2008; Reeve, Jang, Hardre, & Omura, 2002; Vansteenkiste et al., 2004). Here are two illustrations:

- A parent explains to a child why raking the leaves is an important and necessary thing to do: *Raking the leaves is important because we need to clean the yard to invite in and welcome the Halloween trick-or-treaters tonight.*
- A medical doctor explains why exercising is important for her patient: *Exercising three times a week is important because it will clean out your arteries by boosting good cholesterol and reducing triglycerides. That will decrease your susceptibility to a heart attack, and it will boost your mood and energy and help you gain control over your weight and diabetes.*

People who hear a convincing and personally satisfying rationale for why it is important to engage in an uninteresting activity generally put forth greater effort and engagement during that activity than do people who do not hear such an explanatory rationale (Deci et al., 1994; Jang, 2008; Reeve et al., 2002; Vansteenkiste et al., 2004). A good rationale takes the other person’s perspective and provides useful information that the person does not already know. The reason why the provision of explanatory rationales works as a motivational strategy is because it can spark some degree of valuing, identified regulation, and internalization, and personal acceptance (e.g., “This is actually something I want to do.”).

Interest-Enhancing Strategies

The motivational strategy of providing an explanatory rationale applies best to those activities that truly are uninteresting things to do. But a boring task does not always have to be a boring task.

While people are engaging in relatively uninteresting activities (doing homework, washing clothes, driving crosscountry), people can utilize a number of different strategies to foster greater interest (Jang, 2008; Sansone & Smith, 2000; Sansone, Weir, Harpster, & Morgan, 1992). Some widely used “interest-enhancing strategies,” for instance, include setting a goal, embedding the activity within a fantasy context, or adding an extra source of stimulation to the task (e.g., playing music, working with a friend; Jang, 2008). In creating a goal to strive for, task engagement becomes more about achieving the goal than it does about the task itself. After all, what is so interesting about athletic activities such as shooting a basketball or hitting a baseball with a bat other than the pursuit of challenging goals?

As one example, when an elementary-grade math teacher wanted to engage her students in a relatively boring fractions lesson, she presented that fractions activity within a “Space Quest” game. While solving fractions in the context of a game, students set a series of goals, worked within a fantasy context, and worked side by side with their friends. Compared to students who learned fractions in a more traditional way, these students found the lesson more interesting and showed better learning as well (Cordova & Lepper, 1996). It was not that the fractions task became any more interesting but, instead, that the acts of pursuing a goal, placing the task within a personally meaningful context, and working among friends were able to generate the sense of interest that the task itself was unable to generate.

AMOTIVATION

Recall that three distinct types of motivation were presented in Figure 5.4, and the third type was amotivation (in addition to extrinsic motivation and intrinsic motivation). Amotivation literally means “without motivation” (Legault, Green-Demers, & Pelletier, 2006). It is a state of motivational apathy in which people possess little or no reason (no motive) to invest the energy and effort that is necessary to learn or to accomplish something. With amotivation, the person turns passive, ineffective (overwhelmed), and lacks purpose. During class, for instance, the amotivated student tends to sit passively, sleep (or skip class), just act as if he or she is participating, and he or she merely “goes through the motions” of classroom work (Ntoumanis, Pensgaard, Martin, & Pipe, 2004). Similarly, a person who is unemployed and experiencing amotivation does not search for a job (Vansteenskiste et al., 2004), just as an amotivated athlete just cannot muster the energy or sense of purpose to practice and prepare.

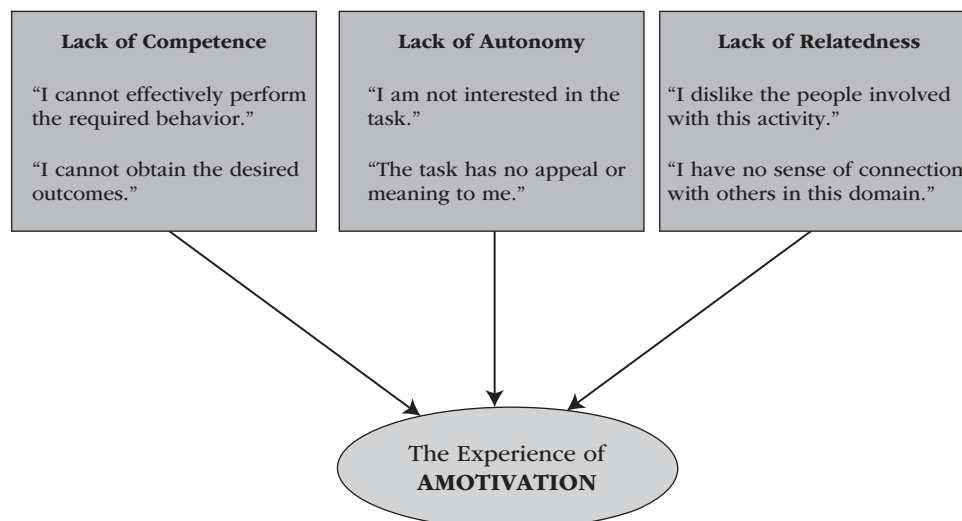


Figure 5.5 Three-Part Experience of Amotivation

Amotivation consists of three distinct, yet intercorrelated, aspects (Cheon, Reeve, & Song, 2016; Green-Demers, Legault, Pelletier, & Pelletier, 2008; Legault et al., 2006; Pelletier, Dion, Tuson, & Green-Demers, 1999; Shen et al., 2010). As depicted in Figure 5.5, amotivation sometimes stems from a lack of competence (a competence deficit), a lack of autonomy (an autonomy deficit), or a lack of relatedness (a relatedness deficit). Amotivation is the worst profile of motivation to possess, because it is a reliable and rather potent predictor of poor functioning. With amotivation, the person simply lacks any intention to act. Students who report high amotivation, for instance, tend to show classroom disengagement, poor learning, only superficial coping and learning strategies, poor academic performance, and high dropout rates (Ntoumanis et al., 2004; Pelletier et al., 1999; Shen et al., 2010). They also tend to show defiance and resistance when others try to push them into action (Van Petegem et al., 2015).

SUMMARY

Extrinsic motivation arises from an environmentally created reason to act. External events such as money and frequent-flyer miles generate extrinsic motivation to the extent that they establish a “means to an end” contingency in the person’s mind, in which the means is the behavior (going to work, flying a particular airline) and the end is some attractive consequence (money, frequent-flyer points). It is not that people develop a desire to engage in behaviors such as working or flying a particular airline; instead, people want to do whatever it is that the environment will reward them for doing.

The study of extrinsic motivation revolves around the three central concepts of incentives, consequences, and rewards. An incentive is an environmental event that attracts or repels a person toward or away from a particular course of action. Consequences involve reinforcers and punishers. A positive reinforcer (money) is any environmental event that, when presented, increases the probability of that behavior in the future. A negative reinforcer (alarm clock noise) is any environmental event that, when removed, increases the probability of that behavior in the future. A punisher (parking ticket) is any environmental event that, when presented, decreases the probability of that behavior in the future. The chief differences between incentives and consequences are (1) when each occurs and (2) how each motivates behavior. Incentives precede behavior and attract or repel action; consequences follow behavior and increase or decrease the strength of behavior. A reward is any offering from one person given to another in exchange for his or her service or achievement.

Incentives, consequences, and rewards that are expected and tangible typically undermine motivation by inadvertently producing the three hidden costs of undermining intrinsic motivation, interfering with the quality and process of learning, and interfering with the capacity for autonomous self-regulation. Intrinsic motivation is the inherent desire to seek out novelty and challenge, to explore and investigate, and to stretch and extend one’s capacities. It is a natural inclination toward exploration, spontaneous interest, and environmental mastery that emerges from innate strivings for personal growth and from experiences of psychological need satisfaction. When intrinsically motivated, people show strong task engagement, act creatively, learn and process information deeply and conceptually, function well, and experience greater vitality and well-being.

Cognitive evaluation theory provides a way to predict in advance the motivational effects of any extrinsic event. The theory explains how an extrinsic event (e.g., money, grade, deadline) affects intrinsic and extrinsic motivations, as mediated by the event’s effect on the psychological needs for competence and autonomy. When an extrinsic event is presented in a relatively controlling way (i.e., given to gain compliance), it increases extrinsic motivation but decreases intrinsic motivation because of its detrimental effects on autonomy. When an extrinsic event is presented in a relatively informational way (i.e., given to communicate a message of a job well done), it increases intrinsic motivation because of its favorable effect on competence. Hence, whether an extrinsic event is motivationally constructive or destructive depends on the relative salience of its controlling and informational aspects.

According to self-determination theory, four types of extrinsic motivation exist and can be arranged along a continuum of no autonomy to full autonomy. This continuum is important because the more autonomous the extrinsic motivation is, the greater is the person's social development, personal adjustment, and psychological well-being. With external regulation (no autonomy), behaviors are performed to obtain a reward, to avoid a punisher, or to satisfy some external demand. With introjected regulation (low autonomy), the person acts as if he was carrying other people's rules and commands inside his head to such an extent that the introjected voice generates self-administered rewards and punishments. With identified regulation (high autonomy), the person has identified with the personal importance of an externally prescribed way of thinking or behaving and has thus accepted it as his or her own way of thinking or behaving. Integrated regulation (full autonomy) involves the self-examination necessary to bring internalized ways of thinking and behaving into congruence with the self.

Internalization refers to the process through which an individual transforms a formerly externally prescribed regulation, behavior, or value into an internally endorsed one. Internalization solves the practical problem of motivating others during uninteresting activities. Integration refers to the further transformation of these internalized values, behaviors, and regulations into the person's sense of self. To motivate people to engage in and benefit from uninteresting tasks, two strategies were suggested: provide explanatory rationales and suggest interest-enhancing strategies.

Amotivation is a state of motivational apathy. It arises from a lack of competence, a lack of autonomy, and a lack of relatedness. It is the worst profile of motivation and is associated with extremely poor functioning.

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Psychological Needs

PSYCHOLOGICAL NEEDS

- Organismic Psychological Needs

- Benefits of Need Satisfaction

- Engagement
 - Personal Growth
 - Intrinsic Motivation
 - Internalization
 - Health
 - Well-Being

NEED FRUSTRATION

AUTONOMY

- Supporting Autonomy

- Take the Other's Perspective
 - Nurture Psychological Need Satisfaction
 - Provide Explanatory Rationales
 - Acknowledge and Accept Expressions of Negative Affect
 - Use Invitational Language
 - Display Patience

- The Conundrum of Choice

- Benefits from Autonomy Support

- Giving and Receiving Autonomy Support

COMPETENCE

- Optimal Challenge

- Flow

- Structure

- Clear Expectations
 - Guidance
 - Feedback

- Failure Tolerance

RELATEDNESS

- Involving Relatedness

- Satisfying Relatedness

- Responsiveness
 - Social Bond

Supporting Relatedness
 Communal and Exchange Relationships
 Benefits from Relatedness Need Satisfaction

PUTTING IT ALL TOGETHER: RELATIONSHIPS AND SOCIAL CONTEXTS THAT SUPPORT PSYCHOLOGICAL NEED SATISFACTION

Engagement
 What Makes for a Good Day?
 Vitality

SUMMARY

READINGS FOR FURTHER STUDY

Imagine visiting a lake for the afternoon—at a state park, for instance. As you lie on the shore soaking up the sun’s rays, you notice a young girl playfully skipping stones across the water’s surface. Before each toss, she studiously inspects piles of stones to find the flattest one. With stone in hand and determination on her face, she puts all her effort into the toss. Each time a rock skips according to plan, she smiles and her enthusiasm grows. Each dud brings a somber expression but also increased determination and a revised technique. At first, she tries only to make each stone skip once off the water’s surface. After some experimentation, she moves on to develop three or four finely tuned techniques—one very long skip, short skips with many hops, and so forth. And she pretends to throw others, the big and heavy stones, like hand grenades, because these splashes look like explosions in her imagination. Even as the family picnic goes on, her rock skipping continues.

The child is at play. She is intrinsically motivated for the activity. For her, an urban child, the lake is a relatively novel setting. It allows her to use her imagination in a way that is different from every day. As she plays, she feels excited, she feels optimally challenged, and she feels a sense of personal causation. Each rock and each toss provides her with a different result. Each new attempt challenges her—“Yeah, but can you do this?”—and affords her an experience that is somehow deeply satisfying, especially when her developing skill results in an improved result. She feels competent, she feels free, she is highly engaged, she learns, she develops skill, and she is happy.

Such intrinsically motivated behavior is more than frivolous play. It is integral to healthy development. Sports, hobbies, school, work, and travel also offer opportunities for people to engage in activities solely for the need-satisfying experiences they provide—experiences of interest, enjoyment, satisfaction, and personal causation. This chapter examines the motivational significance of three psychological needs that are responsible for generating these experiences of interest and enjoyment. The theme throughout the chapter is that when people find themselves in need-supportive environments, then what follows is strong engagement, healthy development, and optimal experience.

PSYCHOLOGICAL NEEDS

People are inherently active (Ryan & Deci, 2017). Doing something and being active is our natural state, because there is never a time when we are not doing something. As children, we push and pull things; we shake, throw, carry, explore, and ask questions about the objects that surround us. As adults, we continue to explore, play, experiment, and engage ourselves. We play games, solve mysteries, read books, visit friends, undertake challenges, pursue hobbies, surf the Web, build things, and do any number of activities because they are inherently interesting and enjoyable things to do.

When an activity taps into and involves our psychological needs, we feel interest. Interest is the emotion that signals that one’s inner psychological needs have been involved by the activity.

When an activity satisfies our psychological needs, we feel enjoyment. Enjoyment is the emotion that signals that one's inner psychological needs have been satisfied by the activity. So, as we engage in an activity, we feel task-inspired interest (i.e., "This is so interesting ...") and task-inspired enjoyment (i.e., "This is so much fun ..."). But, actually, the underlying motivational cause of engaging our environment is to involve and satisfy our psychological needs. Playing games, solving mysteries, and undertaking challenges are interesting and enjoyable things to do precisely because they are opportunities to involve and satisfy our psychological needs (Deci & Ryan, 2000; Ryan & Deci, 2017; Sheldon, 2011).

Organismic Psychological Needs

The three psychological needs of autonomy, competence, and relatedness are organismic psychological needs (Niemic & Ryan, 2013; Ryan & Deci, 2008, 2017). Organismic theories of motivation get their name from the term *organism*, an entity that is alive and in active exchange with its environment (Blais, 1976). The well-being of any organism depends on its environment because the environment offers the resources the organism needs to be well, such as food, water, social support, and intellectual stimulation. Organisms also need environmental resources to grow and to actualize their latent potentials. When environments are supportive and provide what is needed, organisms thrive; when environments are hostile and withhold what is needed, organisms suffer.

Needing supportive rather than hostile environments, organisms seek out and choose some environments over others, as when a person chooses to interact with one person rather than another, to work at one company rather than another, or to drive the car to one location rather than another (Bandura, 2006). And, once in that particular environment, a healthy organism will try to change that environment for the better to make it more supportive (and less frustrating), as when a student expresses his or her preferences, opinions, and interests and lets the teacher know what he or she wants and needs (Reeve, 2013).

Environments also constantly change, hence organisms need flexibility to adjust and accommodate to those changes. To adapt and be well, organisms need to learn to substitute a new response for a previously successful but now outdated one (because the environment changed). Hence, organisms need to grow: They need to learn new information, develop new skills, be open to new interests, and discover new and more effective ways of adjusting. Overall, the focus is on how organisms initiate interactions with the environment, how environments change, and how organisms learn, adapt, change, and grow as a function of those environmental transactions.

The concept of a psychological need asserts that there are fundamental nutriments and environmental supports that all human beings require to thrive. The telltale signs of the presence of a psychological need are that (1) providing particular nutriments produces growth, thriving, and well-being in the organism (plant, person) and (2) withholding these same nutriments produces decay, injury, and ill-being. This concept of fundamental nutriments also suggests that these needs are universal—that they are embedded within the human nervous system and are common to everyone, irrespective of age, gender, culture, socioeconomic status, and so forth.

Benefits of Need Satisfaction

If one accepts the premise that all human beings have a set of basic universal psychological needs, then this acknowledgment has key implications for how we care for one another, the quality of our relationships, and even fundamental human rights (Doyal & Gough, 1991; Ryan, 1995; Ryan & Deci, 2017). Consistent with this thinking, it is clear that psychological need satisfaction benefits people's lives in numerous important ways, including each of the following indicators of positive functioning: engagement, personal growth, intrinsic motivation, internalization, health, and well-being.

Engagement

Psychological need satisfaction fuels engagement. Engagement refers to how actively involved the person is in the activity at hand (Christenson, Reschly, & Wylie, 2012). When highly engaged, people pay attention, concentrate deeply, exert effort, persist in the face of challenge and obstacles, think strategically, diagnose and solve problems, set goals and make plans, ask questions, and contribute constructively into the flow of whatever they are doing. Psychological need satisfaction is the motivational basis for such initiative and engagement. The young rock-skipping girl introduced in the chapter's opening vignette ideally illustrates such motivated engagement, because she pursued her own goals (to feel autonomous) and strove for effectance and improvement (to feel competent). If something happens during task involvement to induce psychological need frustration (i.e., feel controlled, incompetent, rejected), then engagement will turn to apathy and disengagement (Jang, Kim, & Reeve 2016).

Personal Growth

Personal growth refers to how agentic, mature, responsible, authentic, interpersonally connected, self-motivating, efficacious, and self-regulating the person is, while personal regression refers to how apathetic, immature, irresponsible, pretentious, interpersonally alienated, indolent, helpless, and dependent on others the person is (Ryan & Deci, 2000). The fruits of personal growth can be seen in developmental outcomes such as effective functioning, deep and enduring interests, learning, gains in talent and skill development, a sense of self-worth, a lack of anxiety and conflict, and personality integration with a sense of wholeness and identity (Niemiec et al., 2006; Sheldon & Kasser, 1995; Vansteenkiste, Zhou, Lens, & Soenens, 2005).

Intrinsic Motivation

Intrinsic motivation is spontaneous activity done merely for the enjoyment of the activity itself. An activity is fun (intrinsically motivating) precisely because it generates experiences of feeling autonomous, competent, and related (i.e., psychological need satisfaction). For instance, playing a game of tennis is an intrinsically motivated activity because it allows one to feel free and volitional, challenged and effective, and interpersonally close and connected to others. Of course, if playing a game of tennis does not generate these feelings (i.e., forced to play, not being able to make the ball go where you want it to go, being criticized and devalued by one's coach), then it simply will not be much fun. So, it is not tennis per se that is fun but, rather, it is the experiences of autonomy, competence, and relatedness need satisfaction that allow tennis to become a satisfying, intrinsically motivating activity. Intrinsic motivation is quite literally the motivation that arises from experiences of psychological need satisfaction.

Internalization

Internalization is the taking in of beliefs, behaviors, and regulations from other people (and social groups) such that they are transformed into volitional self-regulations of one's own. Internalization is an extrinsic, not an intrinsic, motivational process, as it is not spontaneous or fun but, instead, useful or important. Internalization requires motivational fuel. We internalize others' beliefs and behaviors easily—without friction, conflict, or resistance—when we know that the other cares for and loves us (relatedness), when we believe that the recommended beliefs and behaviors will allow us to function more effectively in life (competence), and when we understand how these beliefs and behaviors will help us accomplish the goals and strivings that are central to our interests (autonomy). However, when these same beliefs and behaviors are offered to us in an excessively controlling way (“You have to...”), in an over-challenging way, or with strings attached (i.e., conditional regard), we experience a good deal of friction, conflict, and resistance. Feeling

such conflict, we tend to reject (rather than accept) the societally recommended belief, behavior, or regulation. Psychological need satisfaction is therefore the basic motivational process that supports and enables the internalization process to occur.

Health

Health refers to the functional efficiency of the mind and body and to the absence of illness, disease, and pathology. The variable that best predicts health-related outcomes is the person's behavior (Schroeder, 2007), and people are more likely to initiate and sustain a health-promoting lifestyle when their psychological needs are met (Ryan, Patrick, Deci, & Williams, 2008). The more environments and relationships (e.g., with doctors, dentists, health-care providers) support the person's psychological needs, the more that person tends toward healthy behaviors, such as eating fruits and vegetables (Shaikh et al., 2011), exercising (Silvia et al., 2011), brushing and flossing (Halvari, Bjørnebekk, Halvari, & Deci, 2012), and taking prescribed medicine (Williams et al., 2009), and toward positive health outcomes, such as losing weight (Williams et al., 1996), abstaining from smoking (Williams et al., 2006), improving oral health and dental well-being (Halvari et al., 2013), persisting in alcohol treatment (Ryan, Plant, & O'Malley, 1995), and engaging in effective self-management of one's glucose (Williams, Freedman, & Deci, 1998) and diabetes (Williams, King, Nelson, & Glasgow, 2005, 2009).

Well-Being

Well-being refers generally to positive mental health and more specifically to the presence of positive emotionality, the absence of negative emotionality, having a sense purpose, and being satisfied with one's life (Ryan & Deci, 2001; Ryan, Huta, & Deci, 2008). Well-being is the telltale sign of the presence of psychological need satisfaction in one's life, just as ill-being is the telltale sign of the absence of psychological need satisfaction (and the presence of need frustration). People who have their psychological needs satisfied are happier, more interested, and more enthusiastic than people who have their psychological needs neglected or frustrated, and the same person is happier on days in which his or her psychological needs are satisfied than on those days when his or her needs are neglected or frustrated (Sheldon, Ryan, & Reis, 1996).

NEED FRUSTRATION

The psychological needs for autonomy, competence, and relatedness can be satisfied by supportive relationships and social contexts, but these same needs can also be frustrated by thwartive relationships and social contexts. Sometimes, our teachers, parents, workplace managers, and others pressure, control, and coerce us into doing only what they want and require us to do. Instead of taking our perspective, supporting our interests, and accepting our feelings, they push only for their own agenda, yell and impose deadlines, and tell us to just shut up and get with the program. Sometimes, others force unrealistic expectations on us and provide harsh criticism. Sometimes, others ignore us, neglect our concerns, and show that they do not enjoy spending time with us. Under these conditions, the motivational and emotional experience is one not of need satisfaction but, rather, one of need frustration.

The research on need frustration makes two key points. First, relationships and social contexts are typically not either supportive or thwartive but, rather, a bit of both. That is, relationships almost always have elements of both need support and need thwart mixed together, which can be referred to as the "bright side" and the "dark side" of any relationship. Figure 6.1 communicates this "dual-process model" (Bartholomew et al., 2011; Vansteenkiste & Ryan, 2013).

Second, experiences of need satisfaction do a good job of predicting and explaining various indicators of people's adaptive functioning and well-being, such as their engagement, prosocial behavior,

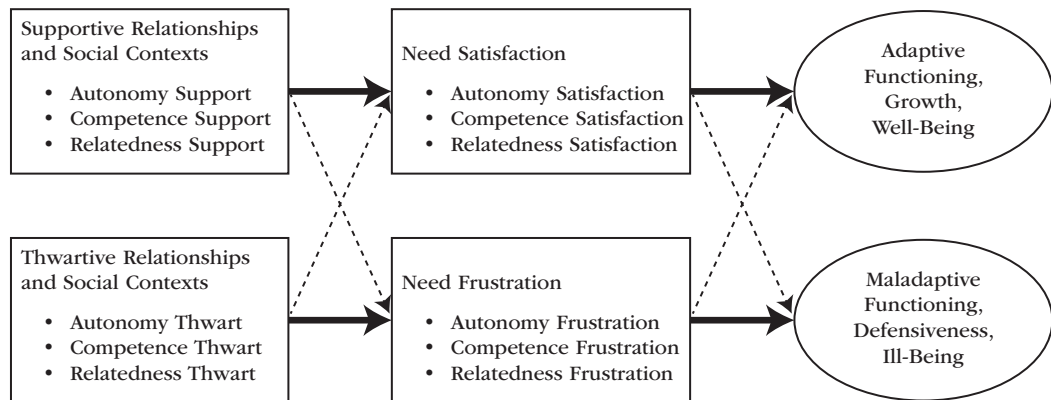


Figure 6.1 Dual-Process Model in Supportive and Thwartive Relationships

and well-being. These same experiences of need satisfaction do not, however, predict and explain low levels of maladaptive functioning and ill-being. Instead, it is the experiences of need frustration that predict and explain various indicators of people's maladaptive functioning and ill-being, such as burnout, aggression, and having a bad day.

From this research on need satisfaction and need frustration, important practical lessons emerge. One is that caretakers and relationship partners need to give attention and develop the skill necessary to provide both highly need supportive and minimally need-thwartive relationships, as these appear to be two separate skills. Another is that the most direct and reliable path to promoting another person's adaptive functioning, growth, and well-being is to be need supportive, while the most direct and reliable path to minimizing another person's maladaptive functioning, defensiveness, and ill-being is to avoid being need thwartive.

AUTONOMY

When deciding what to do, we desire choice and decision-making flexibility. We want the idea for what we do to be our own—to originate from within us. We want to be the one who determines our actions, rather than have someone coerce us into a particular course of action. We want our behavior to arise out of and express our interests, preferences, wants, and desires in an authentic way. We want to be the one who decides what to do, when to do it, how to do it, when to stop doing it, and whether to do it at all. In other words, we have a need for autonomy.

Autonomy is the psychological need to experience self-direction and personal endorsement in the initiation and regulation of one's behavior (Ryan & Deci, 2017). *The hallmarks of autonomy are volitional action and wholehearted self-endorsement (i.e., ownership) of that action.* Behavior is autonomous (or self-determined) when our interests, preferences, and wants guide our decision-making process to engage or not engage in a particular activity. We are not self-determining (i.e., our behaviors are determined by others) when some outside force takes our sense of choice away and, instead, pressures us to think, feel, or behave in other prescribed ways (Deci, 1980).

Personal endorsement is a heartfelt affirmative answer to questions such as, Is this my decision? Is this my behavior? Do I fully agree with this decision, with this goal pursuit, and with this course of action? Is this decision and is this behavior congruent with my own personal interests, preferences, and strivings? The opposite of personal endorsement would be psychological conflict, because the person thinks, "I'm only doing this because I have to, not because I want to."

Supporting Autonomy

External events, social contexts, interpersonal relationships, and cultures all vary in how much versus how little they support versus thwart a person's need for autonomy. When these environmental influences tap into, nurture, and satisfy a person's need for autonomy, they are referred to as "autonomy supportive"; when these environmental influences neglect or try to silence or outright thwart a person's need for autonomy, they are referred to as "controlling" (Deci & Ryan, 1987; Reeve, 2009).

If you watch as one person tries to motivate another (e.g., a teacher tries to motivate her students to engage in the day's lesson), you will always be able to observe—and even feel—a particular interpersonal tone that is being communicated (Reeve, 2015). As illustrated in Figure 6.2, an autonomy-supportive motivating style is defined by an interpersonal tone of understanding. As you watch the autonomy-supportive teacher, for instance, you can see, hear, and feel the teacher's tone to the student: "I am your ally; I am on your side; I am here to understand you and what you want; I am here to support you and your strivings." Also, as illustrated in Figure 6.2, a controlling motivating style is defined by an interpersonal tone of pressure. As you watch the controlling teacher (or parent, manager, physician, coach, politician, etc.), you can see, hear, and feel the teacher's tone to the student: "I am the boss; I am here to monitor what you are doing and make sure that you do what you are suppose to do; I am here to pressure you to do what you are told to do; I am here to change you; I am here to socialize you."

How this autonomy-supportive interpersonal tone of understanding and support plays itself out during moment-to-moment teaching, parenting, coaching, and managing can be seen in the six behaviors listed in Table 6.1. How this controlling interpersonal tone of pressure and coercion plays itself out during moment-to-moment teaching, parenting, coaching, and managing can be seen in the six behaviors listed in Table 6.2. In the table, the example of a classroom teacher's motivating style is used, and for each individual autonomy-supportive and controlling instructional behavior, a number of its defining features are provided via the bullet points. In experiments in which motivating style is measured, trained observers use the rating sheets shown in Tables 6.1 and 6.2 to score a teacher's actual motivating style toward students during instruction (Cheon, Reeve, & Song, 2016). If the teacher was highly autonomy supportive toward her students, the observers would score the behaviors in Table 6.1 with numbers near 7 ("always").

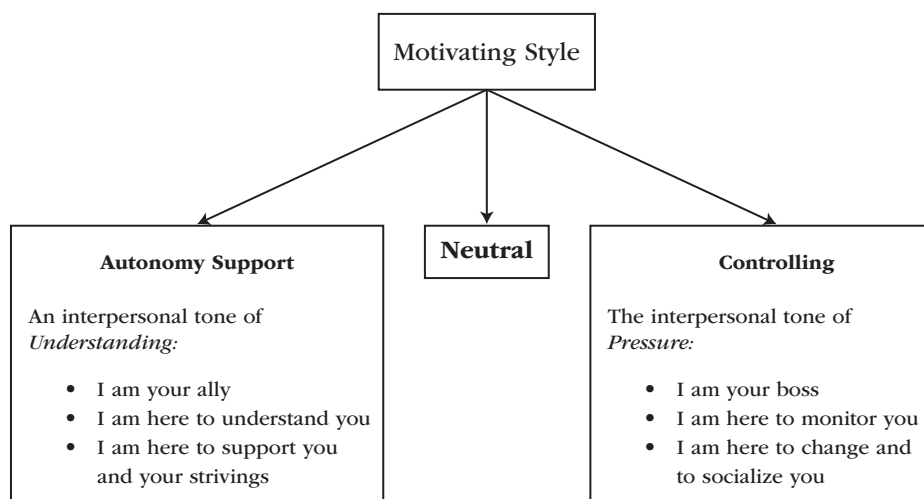


Figure 6.2 The Contrasting Interpersonal Tones that Define the Autonomy-Supportive and Controlling Motivating Styles

Table 6.1 Interpersonal Behaviors Associated with Autonomy Support (An Observer's Rating Sheet to Score a Person's Autonomy-Supportive Motivating Style)

| AUTONOMY-SUPPORTIVE TEACHING | Never, Not at All | | Occasionally Sometimes yes, Sometimes no | | | Frequently, Always | |
|---|----------------------|---|---|---|---|-----------------------|---|
| Takes the Students' Perspective | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| • Invites, Asks for, Welcomes, and Incorporates Students' Input | | | | | | | |
| • Is "In Synch" with Students | | | | | | | |
| • Is Aware of Students' Needs, Wants, Goals, Priorities, Preferences, and Emotions | | | | | | | |
| Vitalizes Inner Motivational Resources during Instruction | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| • Provides Interesting Learning Activities | | | | | | | |
| • Vitalizes and Supports Students' Autonomy, Competence, Relatedness | | | | | | | |
| • Frames Learning Activities with Students' Intrinsic Goals | | | | | | | |
| Provides Explanatory Rationales for Requests, Rules, Procedures, and Uninteresting Activities | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| • Explains Why; Says, "Because, ...", "The reason is ..." | | | | | | | |
| • Identifies the Value, Importance, Benefit, Use, Utility of a Request | | | | | | | |
| Uses Non-Pressuring, Informational Language | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| • Flexible, Open-minded, Responsive Communication | | | | | | | |
| • Provides Choices, Provides Options | | | | | | | |
| • Verbally and Nonverbally says, "You may ...", "You might ..." | | | | | | | |
| Acknowledges and Accepts Negative Affect | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| • Listens Carefully, Nondefensively, with Understanding | | | | | | | |
| • Acknowledges Students' Negative Affect ("Okay"; "Yes") | | | | | | | |
| • Accepts Complaints as Valid | | | | | | | |
| Displays Patience | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| • Allows Students to Work at Their Own Pace, in Their Own Way | | | | | | | |
| • Calmly Waits for Signals of Students' Initiative, Input, Willingness | | | | | | | |

Take the Other's Perspective

To support another person's autonomy, one first needs to take that person's perspective, adopt their frame of reference, be nonjudgmental, and ask questions such as the following: "If I were in the other person's place, what would I be thinking? What would I want and need?" Perspective taking is seeing the situation as if you were the other person. It involves empathic effort and listening carefully with interest and concern to what the other person is saying and wanting—verbally and nonverbally (Cohen, Schulz, Weiss, & Waldinger, 2012). As one listens, one is open to the other's input, suggestions, and communications. By being empathic and by listening carefully, one becomes more able to gain a fuller understanding of how the other sees and experiences the situation. Once the other person's perspective is both understood and appreciated, it becomes rather natural to then desire that the other person thinks and feels better. To do this, one needs to put aside, at least partially, one's own perspective to therefore focus more fully on understanding and appreciating the other person's perspective (Davis, 2004). In contrast, the person with a controlling motivating style appreciates and prioritizes only his or her own perspective to the point that he or she will ignore, discount, or even

Table 6.2 Interpersonal Behaviors Associated with Interpersonal Control (An Observer's Rating Sheet to Score a Person's Controlling Motivating Style)

| CONTROLLING TEACHING | Never, Not at All | | Occasionally Sometimes yes, Sometimes no | | | | Frequently, Always | |
|---|----------------------|---|---|---|---|---|-----------------------|--|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | |
| Takes Only the Teacher's Perspective | 1 | 2 | 3 | 4 | 5 | 6 | 7 | |
| <ul style="list-style-type: none"> • Attends to and Prioritizes Only Teacher's Plans, Needs • Teacher Is Out of Synch with Students; Unresponsive to Students' Signals • Is Unaware of Students' Needs, Wants, Goals, Priorities, Preferences, and Emotions | | | | | | | | |
| Introduces Extrinsic Motivators | 1 | 2 | 3 | 4 | 5 | 6 | 7 | |
| <ul style="list-style-type: none"> • Offers Incentives; Seeks Compliance • Gives Consequences for Desired & Undesired Behaviors • Utters Assignments, Directives, and Commands | | | | | | | | |
| Neglects to Provide Explanatory Rationales | 1 | 2 | 3 | 4 | 5 | 6 | 7 | |
| for Requests, Rules, Procedures, and Uninteresting Activities | | | | | | | | |
| <ul style="list-style-type: none"> • Directives without Explanations • Requests ("do this; do that") without Explanations | | | | | | | | |
| Uses Controlling, Pressuring Language | 1 | 2 | 3 | 4 | 5 | 6 | 7 | |
| <ul style="list-style-type: none"> • Evaluate Critical, Coercive, Inflexible; "No Nonsense" • Prescriptive ("You <i>should</i>, you <i>must</i>, you <i>have to</i>, you've <i>got to</i> ...") • Verbally and Nonverbally Pressuring (raises voice, points, pushes hard, "hurry") | | | | | | | | |
| Counters and Tries to Change Negative Affect | 1 | 2 | 3 | 4 | 5 | 6 | 7 | |
| <ul style="list-style-type: none"> • Counters and Argues Against Students' Negative Affect & Complaining • Says Students' "Bad Attitude" Is Unacceptable • Tries to Change Negative Affect into Something Acceptable to the Teacher | | | | | | | | |
| Displays Impatience | 1 | 2 | 3 | 4 | 5 | 6 | 7 | |
| <ul style="list-style-type: none"> • Rushes Students to Produce a Right Answer or a Desired Behavior • Intrudes into Students' Workspace (Grabs away learning materials; Says, "Here, let me do that for you.") • Communicates What Is Right & Pushes Students to Reproduce It Quickly | | | | | | | | |

invalidate the other person's perspective (e.g., "I don't care if you are tired, get the work done by noon, or else.") (Galinsky, Rucker, & Magee, 2016).

Nurture Psychological Need Satisfaction

Supporting another's autonomy involves finding ways to involve (awaken) and satisfy (nurture) the other's psychological needs for autonomy, competence, and relatedness. For the teacher, parent, or close friend, social interaction is an opportunity to tap into the other person's psychological needs so that he or she will be fully capable of energizing, directing, and sustaining their own motivated activity in productive ways. The classroom teacher, for instance, might begin a lesson by asking students what they would most want to focus on during the lesson (e.g., "What would you like to do?" to support autonomy; Jang, Reeve, & Halusic, 2016), offer students a goal or a challenge to strive for (e.g., "Here is a challenge, can you do it?" to support competence; Clifford, 1990), or have students work together (to support relatedness; La Guardia & Patrick, 2008). The key autonomy-supportive skill in nurturing psychological need satisfaction is to create the conditions in which people can motivate themselves (i.e., motivation arises out of person and out of their psychological needs in particular). When others are controlling, however, they tend to ignore, neglect, or outright thwart the

other person's psychological needs and instead simply apply pressure (e.g., yelling, commanding, introducing a deadline, offering a reward or bribe) until the person does what they are told to do.

Provide Explanatory Rationales

Nurturing inner motivational resources is a helpful motivational strategy when the task at hand is a potentially interesting thing to do, but sometimes we ask others to do relatively uninteresting things. For instance, parents ask their children to clean their rooms, and teachers ask students to follow the rules. To motivate others on uninteresting tasks, people with an autonomy-supportive style communicate the value, worth, meaning, utility, or importance of engaging in these sorts of behaviors, as in "It is important that you follow the rules because we need to respect the rights of everyone in the class and to help everyone feel safe and accepted."

A rationale is a verbal explanation as to why putting forth effort during the activity might be a personally useful thing to do (Reeve, Jang, Hardre, & Omura, 2002; Jang, 2008). Promoting valuing means adding an explanatory "because" to one's request to explain *why* the request or activity is truly worth the other's time and effort. The offering of a deeply satisfying verbal explanation of why a behavior is important enough to warrant one's effort helps the other person understand the personal utility within the requested activity, which motivationally allows that person to transform (internalize) a worthless activity (something not worth doing, like cleaning one's room, finishing one's homework, or taking bad-tasting medicine) into a potentially "worthwhile activity" (something worth doing that will bring a personal benefit to the self). Once a way of behaving has been internalized, people voluntarily (autonomously) put forth effort on even uninteresting (but important) activities (Jang, 2008; Reeve et al., 2002). People with controlling styles, however, do not take the time to explain why the activity is worth doing and say things like "Just get it done," or a nonexplanatory, "Do it because I told you to."

Acknowledge and Accept Expressions of Negative Affect

Sometimes, people complain, show resistance, and express negative affect about having to engage in uninteresting or difficult tasks. They sometimes show "attitude" when having to do things like clean their rooms, follow rules, run laps, and be nice. People who adopt an autonomy-supportive style listen carefully to these expressions of negative affect and accept them as potentially valid reactions to being asked to do things that seem, to them, uninteresting and not worthwhile. Essentially, autonomy-supportive individuals say "okay" and then work collaboratively with the other person to solve the underlying cause of the negative affect and resistance, usually with the end result of redesigning the uninteresting activity into something that becomes more interesting or appealing to the person. People who adopt a controlling style, on the other hand, make it clear that such expressions of negative affect and resistance are unacceptable, saying things such as "Stopping your whining; it's my way or the highway."

The telltale sign that another person is suffering a motivational problem is the expression of negative affect. The bored student complains to the teacher, the misbehaving child shows anger, and the poorly performing athlete shows anxiety and stress. A typical, albeit controlling and ineffective, response to such disengagement, misbehavior, and poor performance is to counter and try to change the other person's complaining and negative affect until it becomes something more acceptable to the parent or workplace manager (e.g., "Quit complaining; you are acting like a baby. Be responsible and just get your work done—or else."). Such a controlling tone, however, is a recipe for motivational and behavioral disaster, as it is essentially "throwing fuel on the fire," rather than helping the other person do what they cannot do by themselves, which is to solve the motivational problem they face.

To solve the deep motivational problems of disengagement, irresponsible behavior, and underperformance, such problems first need to be addressed, which is the essence of "acknowledge" the negative affect. But to actually help the other person solve the motivational problem, the dialogue needs to accept the negative affect, as in "Okay, I understand, what might we do differently?"

Table 6.3 What a Teacher Would Say to Acknowledge and Accept a Students' Boredom:
An Illustrative Script

-
1. *Acknowledge the Presence of the Negative Affect (i.e., Boredom)*
"I see that you are not very enthusiastic about today's lesson—a bit bored with it, no?"
 2. *Accept the Validity of the Negative Affect*
"Yes, I understand; we have practiced this same skill many times before, haven't we?"
 3. *Welcome Students' Input to Help Solve the Motivational Problem*
"Okay, so what might we do differently this time? Any suggestions?"
-

Acknowledging and accepting the other person's negative affect represents the teacher's or parent's best chance of getting rid of the other's frustration, anger, stress, boredom, anxiety, confusion, resentment, and so on. By considering that the other's negative affect may be valid and legitimate (at least from their point of view), the teacher or manager gains an opportunity to restructure the conflict-generating activity so that it gains the potential to become something that is more appealing and less likely to generate negative emotionality. Helping another get rid of their negative affect is a difficult problem to solve, especially for emotions such as anger. But people who adopt an autonomy-supportive motivating style treat listlessness, poor performance, and inappropriate behavior as motivational problems to be understood and solved rather than as targets for criticism (Deci, Connell, & Ryan, 1989). They listen emphatically to understand why the other is struggling motivationally. Because this autonomy-supportive strategy is so infrequently used and because it is so often effective, Table 6.3 provides an illustrative script for what an autonomy-supportive teacher would say to acknowledge and accept negative affect for a student who is deeply bored and disengaged in a classroom setting.

BOX 6 Better to Give than to Receive?

Question: Why is this topic important?

Answer: To gain insight into the benefits of giving support to others.

There is no question that people benefit tremendously from receiving support from others, and the content of this chapter highlights the myriad of benefits from receiving autonomy support, competence support, and relatedness support. The only downside to such findings is the sentiment that is sometimes voiced by parents, teachers, managers, therapists, coaches, and health-care providers: "It sounds like the children, students, and clients get all the benefits. What's in it for me?"

When researchers turned their attention to answering this question, they first looked to peer-to-peer friendships. The first finding was that giving support produced just as many benefits to the giver as it produced for the receiver (e.g., well-being, relationship satisfaction; Deci et al., 2006). The second finding was that school teachers who gave support to their students showed quite large benefits in terms of greater job satisfaction, greater vitality during teaching, and lesser emotional and physical exhaustion after teaching (Cheon et al., 2014). These are impressive

personal and professional benefits, but a third study looked at the longevity of support givers and support receivers.

Both members of elderly married couples completed the following brief questionnaire:

Receiving Support

- Does your spouse make you feel loved?
- Does your spouse make you feel cared for?

Giving Support

- Do you make your spouse feel loved?
- Do you make your spouse feel cared for?

After controlling for a host of potentially confounding factors (e.g., health, age, personality, gender, marital satisfaction), the study used participants' scores on receiving support and giving support to predict their mortality. The best predictor of living a long life was the giving of support, while receiving support had no unique predictive effect on longevity-mortality (Brown et al., 2003).

Taken as a whole, these research findings provide a clear and deeply satisfying (and encouraging) answer to the "What's in it for me?" question, which is that it is better to give than to receive, and this is true in terms of well-being, relationship satisfaction, job satisfaction, and living longer.

Use Invitational Language

People with an autonomy-supportive motivating style rely on informational, noncontrolling, nonpressuring, and invitational language when encouraging others to undertake some goal or behavior (e.g., brush their teeth, eat a healthy diet; Koestner et al., 2012; Vansteenkiste et al., 2005). Using informational, noncontrolling language refers to verbal and nonverbal (tone of voice, facial expressions) communications to minimize pressure while conveying choice, flexibility, and volition. Nonpressuring language means avoiding pressure-packed utterances such as “you should, you have to, you must, and you just got to ...”). Informational means providing the person with special insights and useful strategies that they need to better diagnose, understand, and solve the problem they face. Invitational means using phrases such as “You many want to try this, as it seem to work for Joe.” The opposite of such an autonomy-supportive communication style is a controlling, pressuring, demanding, forceful, no-nonsense style.

So, while an autonomy-supportive coach might say to her athlete, “I’ve noticed that your running times have slowed lately. Do you know why this might be? What strategy are you using in practice to improve—do you think it is the best way to go?”, the coach with a controlling style tends to rely on rigid and guilt-inducing language and a communication style that says that the other person should, must, ought to, or has to do a certain thing (e.g., “You *should* try harder” or “You *must* improve your time—get it done!”) (Assor, Kaplan, Kanat-Maymon, & Roth, 2005). People who adopt a controlling motivating style try to motivate others by inducing feelings of guilt, shame, and anxiety for not performing a requested activity (Barber, 1996), by threatening to withdraw their approval (Assor, Roth, & Deci, 2004), by cultivating perfectionist standards (Soenens et al., 2005), and by offering “conditional regard” more generally (Roth, et al., 2009).

Display Patience

Patience is the calmness one person shows as the other struggles to adjust his behavior from something that is ineffective, indolent, and irresponsible into something that is relatively more effective, energized, and responsible. Displaying patience means to wait calmly for the other person’s input, initiative, and willingness. It means giving the other person the time and space he needs to overcome the inertia of inactivity to then explore better ways of behaving, to plan, and to alter personal goals and problem-solving strategies. In practice, what autonomy-supportive patience looks like is a lot of listening and postponing advice until one first deeply understands why the person is acting in an ineffective, indolent, or irresponsible way and second senses that the other is open and ready to hear one’s suggestions. Once understood, appropriate and constructive support becomes possible, especially when the other person seems stuck on a problem. This support often involves offering words of encouragement and hints toward progress. In contrast, people who adopt a controlling style impatiently rush in, take over, and show and tell the other person what to do and how to solve the problem (e.g., “Here, let me show you how to do it.”).

The Conundrum of Choice

Providing a person with a choice is the most widely used way to support a person’s need for autonomy (Flowerday & Schraw, 2000; Patall, Dent, Oyer, & Wynn, 2012). There is a difference, however, between the environmental event of being offered a choice and the personal experience of true choice. Understanding this difference is an excellent way to understand the nature of the psychological need for autonomy (Patall, 2012).

Providing choices to motivate others is a conundrum (a difficult and complicated problem to solve) because choice sometimes does but other times does not motivate others. Providing choices does generally enhance people’s perceived autonomy and intrinsic motivation (Zuckerman et al., 1978). However, not all choices are the same, and not all choices promote autonomy (Patall,

Cooper, & Robinson, 2008; Reeve, Nix, & Hamm, 2003; Williams, 1998). Hence, the conundrum is, Does the provision of choice nurture autonomy and intrinsic motivation, or does it not?

A choice among prescribed options typically fails to tap into and involve the need for autonomy (e.g., Do you want to listen to country music or to classical music?; Overskeid & Svartdal, 1996; Parker & Lepper, 1992; Schraw, Flowerday, & Reisetter, 1996). For instance, offering people a choice between working on a crossword puzzle or working on an essay activity resulted in no boost in autonomy, engagement, or performance (Flowerday & Schraw, 2003). Likewise Similarly, offering students a choice of topics to write about yielded no benefit in terms of later autonomy or performance (Flowerday, Schraw, & Stevens, 2004). In these “either–or” choice offerings, the person is told to make a choice and is even somewhat forced or pressured to make a choice (Moller, Deci, & Ryan, 2006). This is more “picking” than it is “choosing” (Katz & Assor, 2007). Others point out that being given too many options to choose from—such as 80 different shades of blue paint or a million different YouTube videos—can be overwhelming and demotivating (Iyengar, 2010). In contrast, it is only when people have a true choice over their actions (e.g., Do you even want to listen to music?), and when they are offered choices that are meaningful to their lives, that they experience a sense of autonomy (Cordova & Lepper, 1996; Katz & Assor, 2007; Mouratidis Vansteenkiste, Sideridis, & Lens, 2011; Reeve, Nix, & Hamm, 2003; Williams, 1998). When people are allowed to make choices that truly reflect their personal values, goals, and interests, then they do feel a sense of need-satisfying autonomy. Such an experience of autonomy, in turn, leads to positive postchoice functioning in terms of enhanced intrinsic motivation, effort, creativity, preference for challenge, and performance (Moller, Deci, & Ryan, 2006; Mouratidis et al., 2011; Pattall, Cooper, & Robinson, 2008).

Benefits from Autonomy Support

Receiving autonomy support provides many important benefits. A summary of these benefits appears in Figure 6.3 and includes benefits to one’s motivation, engagement, development, learning, performance, well-being, and health care. Autonomy support nurtures not only the psychological need of autonomy (Jang, Kim, & Reeve, 2016; Reeve & Jang, 2006), but it also nurtures the full range of inner motivational resources, including competence and relatedness need satisfaction (Baard, Deci, & Ryan, 2004; Cheon, Reeve, & Moon, 2012; Ryan & Grolnick, 1986), intrinsic motivation (Reeve, Nix, & Hamm, 2003), curiosity (Deci, Schwartz Scheinman, & Ryan, 1981), and internalized or

| Motivation | Engagement | Development | Learning | Performance | Well-Being | Health Care |
|----------------------|-----------------------|----------------------------------|-------------------------------|--------------------------|--------------------------|-----------------------------|
| Autonomy | Effort, Persistence | Self-Worth | Conceptual Learning | Grades | Psychological Well-Being | Healthy Eating, Weight Loss |
| Competence | Behavioral Engagement | Creativity | Deep Processing | Task Performance | Vitality | Glucose Control |
| Relatedness | Cognitive Engagement | Preference for Optimal Challenge | Active Information Processing | Standardized Test Scores | School Satisfaction | Tobacco Cessation |
| Intrinsic Motivation | Emotional Engagement | | Self-Regulation Strategies | | Life Satisfaction | Physically Active Lifestyle |
| Curiosity | Agentic Engagement | | | | Biological Well-Being | Improved Cholesterol |
| Internalized Values | School Retention | | | | | Improved Oral Health |

Figure 6.3 Benefits from Autonomy Support

self-endorsed values (Grolnick & Ryan, 1987). These experiences of psychological need satisfaction then pave the way to gains in engagement, development, learning, performance, well-being, and health care (as per Figure 6.3).¹

Giving and Receiving Autonomy Support

The benefits of both giving and receiving autonomy support can be appreciated in Box 6 and can be illustrated by thinking about the quality of the relationship you have with several different people in your life. Imagine a close friend and complete the following questions (Deci, et al., 2006):

- My friend tries to understand how I see things (I receive autonomy support).
- My friend believes that I provide choices and options (I give autonomy support).
- When I am with my friend, I feel free to be who I am (I feel autonomy).
- When I am with my friend, I feel like a competent person (I feel competence).
- When I am with my friend, I feel loved and cared about (I feel relatedness).

After completing these questions, ask yourself about the quality of that relationship in terms of relationship satisfaction, closeness, and felt security (versus dismissive, fearful, alienated, and inability to turn to the friend in a time of need). When researchers examined peer relationships, they found that the more one received autonomy support from the other and the more one gave autonomy support to the other, the more those in the relationship experience psychological need satisfaction. Further, the more autonomy, competence, and relatedness need satisfaction that relationship was able to produce, the better able was that relationship to produce relationship satisfaction, positive affect, emotional closeness, and felt security, and this was just as true for male friendships as it was for female friendships (Deci et al., 2006).

COMPETENCE

Everyone wants and strives to be competent. Everyone desires to interact effectively with his or her surroundings, and this desire extends into all aspects of our lives—in school, at work, in relationships, and during recreation and sports. We all want to develop skills and improve our capacities, talents, and potential. When we find ourselves face to face with a challenge, we give the moment our full attention. When given the opportunity to test, expand, and grow and develop our skills, we all want to do well and make progress. When we do so, we feel satisfied, even happy and fulfilled. In other words, we have a need for competence.

Competence is the psychological need to be effective in one's interactions with the environment, and it reflects the desire to stretch and extend one's capacities and skills and, in doing so, to seek out and master optimal challenges and personal growth opportunities (Ryan & Deci, 2017). As a psychological need, competence generates the willingness to seek out optimal challenges, take them on, and exert persistent effort and strategic thinking until we master them. *The hallmarks of competence are experiences of effectance, mastery, and making progress.* This experience of effectance and improvement arise out of our sense of satisfaction from producing intentional effects on the environment (e.g., "I wanted to toss the freesbie to my friend, and I tossed it just like I had envisioned in my mind's eye—and that experience of a job well done gives me a sense of being effective.").

¹ Each of the 32 entries listed under the six columns in Figure 6.3 represents a separate empirical study showing that autonomy support was associated with a high level of that dependent measure. For the reference citations associated with each of these studies, please see the 2009 paper by Reeve in the journal *Educational Psychologist*.

Optimal Challenge

To confirm that people do indeed derive pleasure and a sense of personal satisfaction from optimal challenge, Susan Harter (1974, 1978b) gave school-age children anagrams of different difficulty levels and monitored each child's expressed pleasure (through smiling) upon solving each anagram. (An anagram is a word or phrase such as *table*, with its letters rearranged to form another word or phrase, as in *bleat*.) In general, solving anagrams successfully produced greater smiling and higher enjoyment than did failure (Harter, 1974), suggesting that mastery in general satisfies the competence need. In addition, however, some anagrams were very easy (three letters), some were easy (four letters), others were moderately difficult (five letters), and still others were very hard (six letters). As the anagrams increased in difficulty, it took the children longer and longer to solve them, as you might expect, but the critical measure in the study was how much the children smiled after solving the anagrams of different levels of difficulty (Harter, 1978b). A curvilinear inverted-U pattern emerged in which children smiled very little after solving the very easy or easy problems, very much after solving the moderately difficult problems, and only modestly after solving the very hard problems. The central point is that children experience the greatest pleasure following success in the context of optimal (moderate) challenge. In the words of the children, "The fives were just right; they were a challenge, but not too much challenge" and "I liked the hard ones because they gave you a sense of satisfaction, but the really hard ones were just too frustrating" (Harter, 1978b, p. 796).

Everyone is challenged every day. In school, teachers put examinations in front of students. At work, projects and assignments test a person's writing and creativity skills. On the drive home, the highway challenges both our patience and our driving skills. If the car breaks down, our automotive repair skills will be put to the test. These situations set the stage for challenge. But setting the stage is not the same thing as actually creating the challenge experience itself. One additional ingredient still needs to be tossed into the equation—feedback. Confronting a test, project, or contest invites challenge, but a person does not experience challenge until he or she begins to perform and receive the first glimpse of feedback. It is at that point—facing a challenge and receiving initial performance feedback—that people report the psychological experience of being challenged (Reeve & Deci, 1996). Professional musicians and athletes often echo this insight when they report that their pre-performance feelings of anxiety turn immediately into an experience of challenge with "the first pitch" or "the first keystroke on the piano."

Flow

To determine the conditions that create enjoyment, Mihaly Csikszentmihalyi (1975, 1982, 1990) interviewed and studied hundreds of people he presumed knew what it felt like to have fun: rock climbers, dancers, chess champions, basketball players, surgeons, and others. Later, he studied more representative samples, including working professionals, high school students, assembly-line workers, older adults, and people who generally sat at home and watched television. Irrespective of which sample he studied, Csikszentmihalyi found that the essence of enjoyment could be traced to the "flow experience."

Flow is a state of concentration that involves a holistic absorption and deep involvement in an activity (Keller & Bless, 2008). What people say when they are in a state of flow includes, "I am in the zone," "I am totally focused on what I'm doing," and "It feels like everything clicks" (Martin & Jackson, 2008).

Flow is such a pleasurable experience that the person often repeats the activity with the hope of experiencing flow again and again (Csikszentmihalyi & Nakamura, 1989). Flow occurs whenever a person uses his or her skills to rise up to some challenge. The relationship between task challenge and personal skill appears in Figure 6.4. The figure identifies the emotional consequences that arise from the different pairings of challenge and skill.

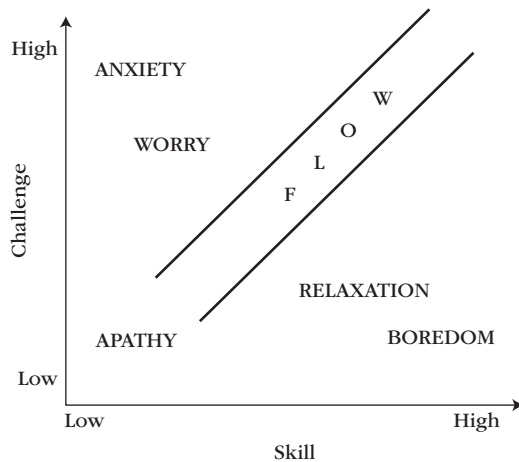


Figure 6.4 Flow Model

As shown in Figure 6.4, when challenge overwhelms skill (skill is low, challenge is high; see upper left quadrant in the figure), performers worry that the demands of the task will exceed their skills. Being overchallenged threatens competence, and that threat manifests itself emotionally as worry (if moderately overchallenged) or as anxiety (if highly overchallenged). However, when challenge matches skill (challenge and skill are both at least moderately high; see upper right quadrant), concentration, involvement, and enjoyment rise. If challenges and skills are perfectly matched, the experience is one of flow. Csikszentmihalyi calls this “optimal experience.” When skill overwhelms challenge (skill is high, challenge is low; lower right quadrant), task engagement is characterized by reduced concentration, minimal task involvement, and emotional boredom. Being under-challenged neglects competence, and that neglect manifests itself emotionally as relaxation (if moderately under-challenged) or as boredom (if highly underchallenged).

The worst profile of experience emanates from the pairing of low challenge and low skill (the lower left quadrant). With both challenge and skill low, literally all measures of emotion, motivation, and cognition are at their lowest levels—the person simply does not care about the task (Csikszentmihalyi, Rathunde, & Whalen, 1993). Flow is therefore a bit more complicated than just “the balance of challenge and skill” because balancing low skill and low challenge produces apathy. A more accurate description of how challenge relates to skill is that flow emerges in those situations in which both challenge and skill are high or moderately high (Csikszentmihalyi & Csikszentmihalyi, 1988; Kawabata & Mallet, 2011; Keller & Bless, 2008).

For a concrete example to illustrate how challenge and skill combine to produce different motivational and emotional states, consider three friends on a snow-skiing outing. Ski slopes offer different difficulty levels such that some slopes are relatively flat (beginner slopes), some are fairly steep (intermediate slopes), and others are downright death-defying (advanced slopes). If the skiers have different levels of skill, Figure 6.4 predicts that the emotional experience will vary for each skier on each slope. The novice skier will mildly enjoy the beginner slopes but will experience mostly worry on the intermediate slopes and heart-stopping anxiety on the advanced slopes. Lacking skill, the novice will feel anxiety in just trying to get off the skill lift without falling. But if the novice can develop the skills necessary to navigate the ski lift, maneuver around the other skiers, and turn on command, then the progress of increasing skill (i.e., moving from left to right on the x-axis in Figure 6.4) will bring experiences of competent functioning, personal control, mastery, and competence need satisfaction—hence, enjoyment and flow. At that point, the novice will start to feel the motivational pull to try one of the intermediate slopes (to seek out optimal challenge).

Meanwhile, the average skier will enjoy the intermediate slopes but will experience mostly boredom on the beginner slopes and worry on the advanced slopes. The professional will most likely enjoy the advanced slopes but will experience mind-numbing boredom on the beginner slopes and relaxation on the intermediate slopes. While spending time on the beginner or intermediate slopes, the professional will need to adjust his or skill level downward by using shorter skis, skiing backward, or by looking for moguls or whatever other challenges might pop up along the way. The fact that people can adjust both level of skill and level of difficulty means that people can establish the conditions for optimal challenge and hence create the conditions to involve and satisfy their need for competence.

The most important practical implication of flow theory is the following: Given optimal challenge, *any* activity can be enjoyed. Doing electrical work, writing papers, debating issues, writing a paper, exercising for 30 minutes, playing a musical instrument, sewing, mowing the lawn, and other such activities do not necessarily make the top of most people's list of must-do activities, but the balance of skill with challenge adds the spice of flow—concentration, absorption, enjoyment, and optimal experience. Consistent with the idea that optimal challenge gives rise to flow, Csikszentmihalyi found that students actually enjoyed doing their homework and working their part-time jobs more than they enjoyed viewing (challengeless) television programs (Csikszentmihalyi, Rathunde, & Whalen, 1993). Furthermore, people more frequently experience enjoyment at (challenging) work than they do during (unchallenging) leisure (Csikszentmihalyi, 1982).

In terms of benefits, the experience of flow facilitates and improves performance, and this facilitating effect holds true across a wide range of people and activities, including actors (Martin & Cutler, 2002), athletes (Jackson, Thomas, Marsh, & Smethurst, 2001), students (Engeser & Rheinberg, 2008), and marathon runners (Schuler & Brunner, 2009). The primary reason why flow enhances performance is an indirect one, however. That is, the experience of flow is so enjoyable that people want to re-experience it. To experience flow, people seek out optimal challenge, and optimal challenge is the ideal context for learning, developing skill, and extending one's capacities. This desire to re-experience optimal challenge leads to a persistent involvement with the flow-enabling task that then provides a practice and skill-building effect that improves performance over time (Schuler & Brunner, 2009).

Structure

Environments can be structured (or designed) to make competence need satisfaction and flow more likely. The three elements of a highly structured learning environment are clear expectations, guidance, and feedback (Skinner & Belmont, 1993; Jang, Reeve, & Deci, 2010). Table 6.4 shows a rating sheet to score how much or how little structure is provided. When environments (e.g., classroom, worksite, athletic field) are structured in this way, people do tend to experience enjoyment, flow, and competence need satisfaction (and tend not to experience boredom, worry, and anxiety) (Hokoda & Fincham, 1995; Nolen-Hoeksema, Wolfson, Mumme, & Guskin, 1995; Skinner, 1995), and they are more likely to exert effort, develop skills, solve problems, and make progress (Hollembek & Amorose, 2005; Jang, Reeve, & Deci, 2010; Ntoumanis, 2005; Skinner, 1995; Skinner, Zimmer-Gembeck, & Connell, 1998; Taylor & Ntoumanis, 2007).

Structuring a learning, work, or athletic environment is particularly important and beneficial when people are learning new skills or lack experience in the domain. Under these conditions, a person's sense of competence can be fragile, underdeveloped, or "at risk." When activities require skills and knowledge that people do not yet sufficiently possess, task engagement might go well and feed competence satisfaction, but it also might go poorly and feed only competence frustration. Fortunately, providers of learning environments (e.g., teachers, managers, coaches, tutors) can take action to tip the balance toward an experience of competence and away from an experience of incompetence by offering clear expectations, progress-enabling guidance, and constructive feedback.

Table 6.4 Rating Sheet to Score the Three Aspects of Structure: Expectations, Guidance, and Feedback

| STRUCTURED TEACHING | Never, Not at All | | Occasionally Sometimes yes, Sometimes no | | | | Frequently, Always |
|--|----------------------|---|---|---|---|---|-----------------------|
| Clear Expectations, A Goal to Strive for | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| <ul style="list-style-type: none"> • “What to Do” Is Clear • Expectations and Standards Are Clear • Provide Directions, a Schedule • State a Clear Goal or Learning Objective • Offer a Clear Plan of Action | | | | | | | |
| How-to Guidance, Scaffolding | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| <ul style="list-style-type: none"> • Mentor and Coach for Progress • Model the “How to” of the Requested Skill • Provide Guidance, Help, Assistance • Provide Needed Resources • Offer Strategies, Hints, Tips, Reminders | | | | | | | |
| Constructive Feedback | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| <ul style="list-style-type: none"> • Facilitate Reflection • Provide Competence-Diagnosing & Competence-Building Information • Communicate Strengths: What Was Well-Done • Identify Weaknesses: What Needs to Be Improved • Offer a Path Forward to Future Progress | | | | | | | |

Clear Expectations

When people first begin to engage in a learning activity, they often wonder:

- What should I do?
- What represents good performance?
- How good is good enough?

The confusion inherent in these questions can be cleared away by communicating clear expectations and/or a goal to strive for. By communicating clear expectations, people realize what is expected of them, what needs to be done, and when it needs to be done. It is under these conditions of clarity (i.e., “By Thursday, write a 500-word essay that has a clear theme and convincing evidence to support your conclusions”) that the aforementioned three questions can be answered to the point that the person knows what to do and what competent functioning looks like.

Guidance

As people engage in a learning activity and as they pursue a goal, they often wonder:

- Am I doing this correctly?
- Will I be able to do this well?
- How can I improve—how can I do better?

The doubt inherent in these questions can be silenced by offering the performer progress-enabling guidance, how-to instruction, examples, modeling, strategies, tips, mentoring, coaching, resources,

help and assistance, and well-timed suggestions and reminders (i.e., the “secrets to success”). It is under these conditions of guidance that people gain the understanding and skill they need to meet expectations and to attain the sought-after goal. Even if the progress is slow, the performer need not feel incompetent, because the mentor will be at their side to provide the guidance needed to make future progress.

Feedback

As people display their skill and generate work products, they often wonder:

- Is this any good?
- What should I work on next?
- How can I advance from good to great?

Constructive feedback helps people adjust and reorganize their strategies and performances into a clear path to future progress. Without the benefit of a post-performance commentary, people find it difficult to judge their performances and products (e.g., “Was my performance any good?”). In a post-performance commentary, the mentor comments on the quality of the performer’s work, identifies strengths and points of progress, identifies weaknesses and opportunities for improvement, and provides improvement-enabling insights (e.g., “One opportunity for improvement is in your conclusion sentences. Your current conclusion sentences do not yet really explain the point of the paragraph. If you author stronger conclusion sentences, then your writing will improve significantly.”). The mentor also facilitates reflection (e.g., “How well do you think you did? Why do you think you are having trouble making progress?”). It is under these conditions of constructive feedback that people find (or create) a future pathway forward to greater understanding and skill development.

A mentor cannot make another person feel competent (even with rewards and praise), and a mentor cannot give another an authentic experience of competence need satisfaction. Instead, a need-satisfying sense of competence needs to be earned by the performer. That “earned competence” flows out of making progress, dealing effectively with optimal challenges, and capitalizing on personal growth opportunities. Mentors can support such earned competence by offering clear expectations, a goal to strive for, progress-enabling guidance, and constructive feedback. The whole process is sort of like providing rain, sun, and soil to a seed. The environment cannot make the seed grow (that is up to the seed), but it can provide the conditions under which the seed is very likely to grow.

Failure Tolerance

Challenge seeking almost always occurs within a social context. This is important because the main problem with optimal challenge, motivationally speaking, is that people who pursue optimal challenges are as likely to experience failure and frustration as they are to experience success and enjoyment. In fact, one hallmark of optimal challenge is that success and failure are equally likely. Thus, the dread of failure can emotionally squash the competence need-involving qualities of optimal challenge. If intense, such dread of failure can motivate avoidance behaviors so that people go out of their way to escape from being challenged (Covington, 1984a, 1984b). When people are placed into a social context that reacts harshly to failure, they are more likely to avoid challenge than to seek it. People most prefer to seek out optimal challenges (rather than easy successes) when they find themselves in social environments that are autonomy-supportive and failure-tolerant, rather than controlling and failure-intolerant (Clifford, 1990; Deci, Schwartz, Scheinman, & Ryan, 1981).

Before people will engage freely in optimally challenging tasks, the social context must tolerate (even value!) failure and error making. Optimal challenge implies that considerable error making will occur, so a prerequisite for challenge seeking is the perception that one is surrounded by a social

climate rich in “failure tolerance” or “error tolerance” (Clifford, 1988, 1990). Error tolerance, failure tolerance, and risk taking rest on the belief that we learn more from failure than we do from success. Failure produces unique opportunities, and it does so because it has three unique constructive features (Clifford, 1984):

1. Failure urges people to identify its causes (and its eventual remedy).
2. Failure prompts people to revise and update the quality of their coping strategies.
3. Failure prompts people to recognize their need for advice and instruction.

So, to make progress and earn a sense of competence need satisfaction for a job well done, people need both environmental structure (clear expectations, guidance, feedback) and a social context characterized by high failure tolerance.

RELATEDNESS

Everyone needs to belong. Everyone wants friends. Everyone is naturally inclined to be volitionally engaged in close relationships. Everyone experiences closeness and joy when interacting with a caring, responsive friend. We all go out of our way to form and maintain warm, close, affectionate relationships with others. We all want others to understand us for who we are as individuals, and we want others to accept and to value us. We want others to acknowledge us and to be responsive to our needs and concerns. We want relationships with others who really and honestly care for our well-being. We want our relationships to be reciprocal; we not only want to form close, responsive, and caring relationships, but we also want the other person to want to form these same sorts of relationships with us. We not only want to be cared for, but we also want to care for others, be sensitive to their concerns, and be responsive to their needs. We want to feel connected and involved with others and to groups. In other words, we have a need for relatedness.

Relatedness is the psychological need to establish close emotional bonds and attachments with other people, and it reflects the desire to be emotionally connected to and interpersonally involved in warm relationships (Baumeister & Leary, 1995; Carvallo & Gabriel, 2006; Fromm, 1956; Guisinger & Blatt, 1994; Ryan, 1993; Ryan & Powelson, 1991; Sullivan, 1953). *The hallmarks of relatedness are feeling socially connected and both giving and receiving care and benevolence to those people (and social organizations) we deem to be significant in our lives.* Relatedness is the psychological need to care and to feel cared for, to love and to feel loved. We want to matter in the lives of others, to be seen as significant in their eyes, to be appreciated, and to have other people care about and take an interest in what we say, do, and believe.

Because we need relatedness, we gravitate toward people who we trust will care for our well-being, and we drift away from those who we do not trust to look out for our well-being. What people are essentially looking for within need-satisfying relationships is the opportunity to relate the self to another person in an authentic, caring, reciprocal, and emotionally meaningful way (La Guardia & Patrick, 2008; Ryan, 1993). Further, because we need relatedness, social bonds form easily (Baumeister & Leary, 1995). Given an opportunity to engage others in face-to-face interaction, people generally go out of their way to create relationships (Brewer, 1979). Indeed, the emergence of friendships and alliances seems to require little more than proximity and spending time together (Wilder & Thompson, 1980). This helps explain some of the success of the sharing economy, such as Airbnb, whose mission statement is “Belong anywhere” (Gallagher, 2017), which could be easily translated as “Relatedness anywhere.” Once social bonds are formed, people are generally reluctant to break them. When we move, when we graduate from school, and when others take their leave of us, we resist the breakup of the relationship. We promise to write and to telephone, we cry, we exchange addresses, phone numbers, and e-mails, and we plan a future occasion to get back together.

Involving Relatedness

The primary condition that involves the relatedness need is social interaction. When we are alone, our relatedness is relatively quiet or dormant. It is social interaction that vitalizes (awakens) the psychological need for relatedness (Carvallo & Gabriel, 2006). But even interactions with strangers can leave the relatedness strangely quiet. So, it is only those social interactions that promise the possibility of warmth, care, and mutual concern that vitalize the relatedness need. For instance, meaningful (rather than trivial) conversation and feeling understood by one's partner lead to relatedness satisfaction (Reis et al., 2000), as does a well-structured cooperative learning group (Fernandez-Rio, Sanz, Fernandez-Cando, & Santos, 2017). Starting a new relationship that promises new opportunities for warmth and care seems to be an especially easy way to involve the need for relatedness. Consider, for instance, the motivational potency of first dates, falling in love, childbirth, fraternity or sorority pledging, and starting anew in school or in employment.

Satisfying Relatedness

Responsiveness

Not all social interactions generate relatedness need satisfaction. Many interactions are just superficial conversations and transactions (e.g., a conversation in an elevator, greeting a stranger on the subway). According to relationship motivation theory (Deci & Ryan, 2014), the active ingredients that produce relatedness satisfaction are that the other person understands me and offers acceptance and support of the self. This is true even during a conflict or disagreement (Patrick, Knee, Canevello, & Lonsbary, 2007).

The specific relationship mechanism that is most responsible for a deep sense of relatedness satisfaction is perceived partner responsiveness (Reis, 2014). Responsiveness is the process by which a person comes to believe that a relationship partner gives their full attention, understanding, and support.

Responsiveness begins with one person showing or communicating his or her needs, goals, wishes, preferences, or aspirations. That is, the person reveals something important about him- or herself. The interaction partner then offers a supportive response, and such a reaction leads the person to believe that the partner is responsive. Such a process then begs the question as to what such a supportive response is, so Reis (2014) identified the following three key characteristics:

- **Understanding**—the partner accurately and appropriately “gets the facts right” about what one is saying, feeling, and wanting. Understanding communicates authenticity in the relationship.
- **Validation**—the partner values and appreciates one's personal characteristics and worldview. Validation communicates liking and acceptance.
- **Caring**—the partner sends a message of confidence that he or she will provide help when it is needed. Caring communicates a concern for one's well-being.

This interpersonal process of disclosure-and-responsiveness is what explains a particular episode of high relatedness satisfaction. When both relationship partners perceive high partner responsiveness, then the relationship is very likely to be a highly satisfying one, one that is characterized by both mutuality of relatedness, positive emotionality, mood, compassion, caring, trust, and relationship commitment (Deci et al., 2006; Feeney & Thrush, 2010; Gleason Iida, Bolger, & Shrout, 2003; Reis, 2014).

Social Bond

Although interaction with others is sufficient for involving the relatedness need, satisfaction requires the creation of a social bond between the self and another, as illustrated in Figure 6.5. To be satisfying,



pamspix/Getty Images

Figure 6.5 Relatedness Satisfaction from a Social Bond

that social bond needs to be characterized by the perceptions that the other person (1) cares about my welfare and (2) likes me (Baumeister & Leary, 1995). But more than caring and liking, relationships that deeply satisfy the need for relatedness are those steeped in the knowledge that one’s “true self”—one’s “authentic self”—has been shown and deemed to be important in the eyes of another person (Deci & Ryan, 1995; Rogers, 1969; Ryan, 1993).

Relationships that do not involve understanding, accepting, liking, valuing, and caring do not satisfy the need for relatedness. People who are lonely, for instance, do not lack frequent social contact. As they interact with others, they notice their partner’s changes in facial expression and voice tone as much as do nonlonely people. Rather, those who feel lonely lack close, intimate relationships (Wheeler, Reis, & Nezlek, 1983). When it comes to relatedness and relationships, quality is more important than quantity (Carstensen, 1993).

Marriages, which are clearly close relationships, are not always emotionally satisfying. Some marriages, although full of social interaction, are also full of conflict, stress, and criticism and basically make the other person’s life more difficult than it otherwise would be. Alternatively, supportive marriages, those rich in mutual care and liking, are the emotionally satisfying relationships that lead people to feel happy (Coyne & DeLongis, 1986). Furthermore, youths’ relationships with their parents follow the same pattern (Carnelley, Pietromonaco, & Jaffe, 1994). Having one’s relatedness need satisfied promotes vitality and well-being (Ryan & Lynch, 1989), and it lessens loneliness and depression (Pierce, Sarason, & Sarason, 1991; Windle, 1992). Emotions such as sadness, depression, jealousy, and loneliness exist as telltale signs of a life lived in the absence of intimate, high-quality, relatedness-satisfying relationships and social bonds (Baumeister & Leary, 1995; Williams & Solano, 1983).

Supporting Relatedness

Relationships vary in how much versus how little they support a person’s need for relatedness. When relationships tap into, nurture, and satisfy a person’s need for relatedness, they are referred to as “relatedness supportive” or as “relatedness support” (Sparks, Dimmock, Lonsdale, & Jackson, 2016).

The interpersonal tone that defines relatedness support is responsiveness, which can be further broken down into understanding, validation, and caring, as discussed earlier. But one group of

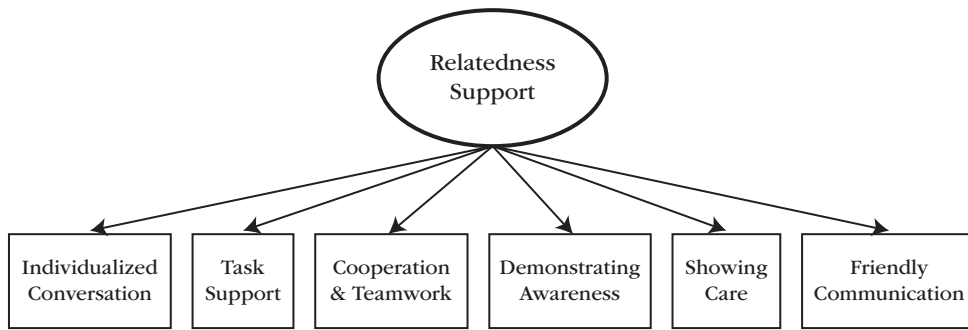


Figure 6.6 Six-Factor Model of Teacher-Provided Relatedness Support

researchers sought further to identify specific day-to-day behaviors that allowed people in relatively formal relationships (at work, at school) to feel high relatedness satisfaction, and these researchers specifically observed students interacting with their teachers (Sparks et al., 2015; Sparks et al., 2016). As shown in Figure 6.6, six everyday behaviors functioned as reliable predictors of when students felt high relatedness need satisfaction while interacting with their teachers: individualized conversation (e.g., “My teacher is interested in the things I do outside of class.”); task support (e.g., “As I work, my teacher provides encouragement and know how well I am performing.”); promoting cooperation and teamwork (“My teacher encourages students to get to know each other well.”); demonstrating awareness (“My teacher recognizes the needs of each student in the class.”); showing care (“My teacher cares about me.”); and friendly communication (e.g., “My teacher is easy to talk to.”).

Communal and Exchange Relationships

We involve ourselves in many relationships, some of which are more need satisfying than others. The distinction between communal and exchange relationships captures the essence of relationships that do (communal) and do not (exchange) satisfy the relatedness need (Mills & Clark, 1982).

Exchange relationships are those between acquaintances or between people who do business together. Communal relationships are those between persons who care about the welfare of the other, as exemplified by friendships, family, and romantic relationships. What distinguishes exchange from communal relationships are the implicit rules that guide the giving and receiving of benefits, such as money, help, and emotional support (Clark, Mills, & Powell, 1986). In exchange relationships, no obligation exists between interactants to be concerned with the other person’s needs or welfare. As they say in the movie *The Godfather*, “It’s business.” In communal relationships, both parties care for the needs of the other, and both feel an obligation to support the other’s welfare. Only communal relationships satisfy the relatedness need.

In communal relationships, people monitor and keep track of the other’s needs, regardless of any forthcoming opportunities for reciprocity or material gain (Clark, 1984; Clark & Mills, 1979; Clark, Mills, & Powell, 1986; Clark, Ouellette, Powell, & Milberg, 1987). For instance, people involved in communal (as compared to exchange) relationships frequently check up on the needs of the other (Clark, Mills, & Powell, 1986); resist keeping track (or score) of individual inputs into joint projects (Clark, 1984); are responsive to the other’s needs (LeMay, Clark, & Feeney, 2007); provide help when the other feels distressed (Clark, Ouellette, Powell, & Milberg, 1987); and experience tangible economic gifts as *detrimental* to how friendly, relaxed, and satisfying forthcoming interactions are likely to be (Clark & Mills, 1979). On this latter point, consider the emotional discomfort you might feel after providing a ride home to a close (communal) friend and, upon arrival, were handed \$10 for

the favor (Mills & Clark, 1982). In communal relationships, what people want is relatedness need satisfaction, not a \$10 bill.

Benefits from Relatedness Need Satisfaction

The benefits of relatedness need satisfaction are the fruits of any psychological need satisfaction (i.e., autonomy, competence, or relatedness)—namely, engagement, developmental growth, health, and well-being.

In terms of engagement, it is a routine finding in the school setting that relatedness to one's teachers and peers is a strong and reliable predictor of students' engagement, including how much effort they put forth during class (Furrer & Skinner, 2003; Sparks et al., 2015) and during school (Goodenow & Grady, 1993) and whether they persist in school versus drop out (Battistich, Solomon, Watson, & Schaps, 1997; Osterman, 2000).

In terms of personal growth, people function better, are more resilient to stress, and report greater self-esteem and fewer psychological difficulties when their interpersonal relationships support their need for relatedness (Cohen, Sherrod, & Clark, 1986; Lepore, 1992; Osterman, 2000; Ryan, Stiller, & Lynch, 1994; Sarason et al., 1991; Windle, 1992). One key reason that relatedness need satisfaction promotes such positive functioning is because relatedness to others provides the social context in which internalization occurs (Goodenow, 1993; Grolnick, Deci, & Ryan, 1997; Ryan & Powelson, 1991). When a person feels emotionally connected to and interpersonally involved with another, then he or she believes the other person is truly looking out for his or her welfare, relatedness is high, and internalization occurs willingly.² Contrarily, when a person feels emotionally distant from and interpersonally neglected by another, then he or she believes the other person does not care, relatedness is low, and internalization rarely occurs. For instance, children who have a positive relationship with their parents will generally internalize their parents' ways of thinking and behaving. Children with stormy or nonexistent relationships with their parents will generally reject their parents' ways of thinking and behaving and search for a value system elsewhere.

In terms of health, being loved, respected, protected, cared for, and having one's needs met affects the vasopressin and oxytocin systems (Wisner-Fries et al., 2005). The vasopressin and oxytocin hormones regulate social bonding, stress regulation, and emotional reactivity. For instance, warm touching increases (while social neglect decreases) the release of these two hormones, and their release into the bloodstream leads to positive social behavior and lessened stress.

In terms of well-being, people who experience a steady stream of relatedness need satisfaction in their relationships and in their lives are consistently happier, more enthusiastic, and less stressed, anxious, depressed, and lonely than are those who experience a dearth of relatedness need satisfaction (Baumeister & Leary, 1995).

PUTTING IT ALL TOGETHER: RELATIONSHIPS AND SOCIAL CONTEXTS THAT SUPPORT PSYCHOLOGICAL NEED SATISFACTION

Specific aspects of relationships and the social context are noteworthy in their capacity to involve and satisfy the psychological needs. For illustration, Table 6.5 summarizes the prototypical events that involve and satisfy the needs of autonomy, competence, and relatedness.

²High relatedness does not guarantee that internalization will occur. For internalization to occur, the individual must also see the value and personal utility in the other's prescriptions ("do X, believe Y") and proscriptions ("don't do X, don't believe Y"). To internalize a value or to internalize a way of behaving, the person needs to understand why the value or way of acting has merit, as in "Why is it important that I brush my teeth?" Therefore, relatedness is a necessary (but not sufficient) condition for internalization and cultural transmission to occur. Internalization flourishes in relationships that provide a rich supply of (1) relatedness need satisfaction and (2) personally satisfying rationales that explain why the others' prescriptions and proscriptions will benefit the self (i.e., autonomy support).

Table 6.5 Relationship and Social Context Factors that Involve and Satisfy the Three Psychological Needs

| Psychological Need | Environmental Condition That Involves the Need | Environmental Condition That Satisfies the Need |
|--------------------|--|---|
| Autonomy | Opportunities for self-direction | Autonomy support |
| Competence | Optimal challenge | Guidance & feedback |
| Relatedness | Social interaction | Partner responsiveness |

Engagement

The motivational model of engagement depicted in Figure 6.7 comprehensively illustrates the contribution that relationships and social contexts have for psychological needs (Skinner & Pitzer, 2012; Skinner, Kindermann, Connell, & Wellborn, 2009). Engagement represents how actively involved in an activity the person is, such as when learning in school or practicing skills in music or sports (Christenson, Reschly, & Wiley, 2012). When highly engaged, people show behavioral engagement (on-task attention, effort, persistence), emotional engagement (interest, enjoyment), cognitive engagement (strategic thinking, sophisticated learning strategies), and agentic engagement (constructive contributions into the flow of the activity), as discussed in Chapter 1.

Jim Connell and Ellen Skinner explain the conditions under which people show high and low engagement by tracing the origin of engagement to the three psychological needs. Specifically, they argue that (1) autonomy support enhances engagement because it involves and satisfies the need for autonomy, (2) structure enhances engagement because it involves and satisfies the need for competence, and (3) involvement enhances engagement because it involves and satisfies the need for relatedness. How autonomy support, structure, and involvement are expressed during social interactions (in school, in the home, at work, during athletic practice, on the job site) appear in some detail on the left-hand side of Figure 6.7. The bulleted points listed under Autonomy Support, Structure, and Involvement nicely represent the contents of this chapter. It is within these aspects of a supportive environment (or relationship) that people richly experience engagement-fostering psychological need satisfaction.

What Makes for a Good Day?

Experiences that involve and satisfy psychological needs generate positive emotion and psychological well-being (Reis et al., 2000; Ryan, Bernstein, & Brown, 2010; Ryan & Deci, 2001). Simply put, we feel that we have a good day when the events in our lives work to involve and satisfy our psychological needs, and we feel that we have a bad day when the events in our lives work to neglect and frustrate these needs. So psychological need satisfaction predicts and explains when we do and do not have a “good day.”

To study day-to-day fluctuations in well-being, one group of researchers asked college students to keep a daily diary of their moods (joyful, angry) and well-being (vitality, physical symptomatology such as headache frequency). The researchers predicted that good days are those in which one’s psychological needs are met (Kasser & Ryan, 1993, 1996; Milyavskaya, Philippe, & Koestner, 2013; Reis et al., 2000; Ryan, Bernstein, & Brown, 2010; Sheldon, Elliot, Kim, & Kasser, 2001; Sheldon, Ryan, & Reis, 1996). Circumstances partly dictated when people had their good days; people had their best days on weekends, for instance. But people also had their best days when they experienced higher levels of daily autonomy, daily competence, and daily relatedness. For instance, as people spent their days attending classes, talking with friends, playing the cello, or on the job at work, the more internal was their perceived locus of causality (daily autonomy), the more effective

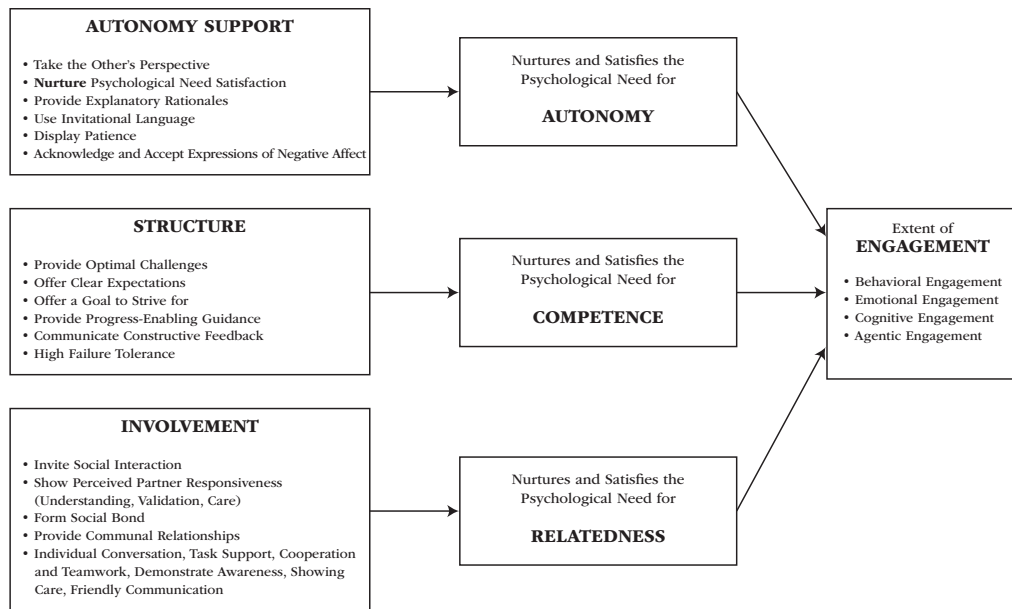


Figure 6.7 Engagement Model to Illustrate the Motivational Significance of Autonomy Support, Structure, and Involvement

they felt (daily competence), and the more they felt close to and connected with others (daily relatedness) during these activities, the greater was their positive affect and vitality and the lesser was their negative affect and physical symptomatology.

These findings confirm that psychological needs provide people with the *psychological nutrients* they need to experience good days and positive well-being (Ryan, 1995; Sheldon, Ryan, & Reis, 1996). Consider an ordinary trip to the gym to exercise. Imagine at the end of the workout that you completed a questionnaire asking how enjoyable the hour was, why you came to exercise, how challenging the workout was and how much you improved, and what the quality of the social interaction was during the hour. Notice that these questions correspond to the psychological needs for autonomy, competence, and relatedness. In the study that did ask exercisers these questions, the more exercisers reported experiencing autonomy, competence, and relatedness, the greater was their enjoyment during the exercise session (Ryan et al., 1997). In contrast, people who exercised for other motives (appearance, body image) enjoyed the experience less and worked out for a briefer time. The conclusion is that moment-to-moment and daily fluctuations in need satisfaction promote and enable well-being while need frustration disrupts it.

Vitality

One way people experience a good day is through a subjective experience of vitality. Vitality is the energy that is available to the self (Ryan & Deci, 2008). For instance, consider the following three sentences (Bostic, Rubio, & Hood, 2000; Ryan & Frederick, 1997):

- I feel alive and vital.
- Sometimes, I feel so alive that I just want to burst.
- I feel energized.

When people have days that allow them to feel autonomous, competent, and interpersonally related, they are significantly more likely to agree with these statements (Kasser & Ryan, 1993, 1996; Sheldon, Ryan, & Reis, 1996). When people have days that frustrate and thwart their psychological needs, they feel drained, depleted, and they find these three statements extreme and unrealistic. The conclusion is that psychological need involvement and satisfaction offer us the psychological nutrients we need to feel vital and well, and the presence of vitality is a rather clear signal that our psychological needs are being met and we are well (Ryan & Deci, 2008; Ryan et al., 2010).

SUMMARY

The study of the three psychological needs of autonomy, competence, and relatedness relies on an organismic approach to motivation, an approach that makes two core assumptions. First, people are inherently active. Second, the environment sometimes supports but other times neglects and frustrates the person's psychological needs. The picture that emerges in an organismic approach to motivation is that human beings possess a natural motivation to learn, grow, and develop in a way that is healthy and mature, and they do so when environments involve and support their psychological needs. Need satisfaction then leads to strong engagement, personal growth, intrinsic motivation, internalization, health, and well-being. Need frustration, however, leads to defiance, developmental regression, amotivation, interpersonal conflict, decay, and ill-being.

Autonomy is the need to experience self-direction and personal endorsement in the initiation and regulation of one's behavior. When autonomous, people feel a sense of authorship over their thoughts, feelings, and behaviors. External events, social contexts, interpersonal relationships,

and cultures all vary in how much versus how little they support versus thwart a person's need for autonomy. People support autonomy in others when they take the other's perspective, nurture psychological need satisfaction, provide explanatory rationales, acknowledge and accept expressions of negative affect, use invitational language, and display patience. The benefits of both receiving and giving autonomy support include not only autonomy need satisfaction but also gains in engagement, development, learning, performance, well-being, health care, and relationship satisfaction.

Competence is the need to interact effectively with the environment. It reflects the desire to exercise one's capacities and skills and, in doing so, to seek out and master optimal challenges. The principal environmental event that involves the competence need is optimal challenge. When task challenge and personal skill are both relatively high, people tend to experience flow, which is a psychological state characterized by maximal enjoyment, intense concentration, and full absorption in the task. The principal environmental events that satisfy the competence need are clear expectations, progress-enabling guidance, constructive feedback, and high failure tolerance. The more environments satisfy people's need for competence, the more willing people are to seek out and try to master optimal challenges that allow them opportunities to develop and grow.

Relatedness is the need to establish close emotional bonds and attachments with other people, and it reflects the desire to be emotionally connected to and interpersonally involved with others in warm, caring relationships. Mere interaction with others is a sufficient condition to involve the need for relatedness. To satisfy relatedness, however, a person needs to experience perceived partner responsiveness, which is characterized by understanding, validation, and care. Relatedness satisfaction also depends on the emergence of a social bond with another person, one that involves caring, liking, reciprocity, and a sense of exposing one's authentic self and having that authentic self both accepted and valued by the other. A communal relationship represents the type of relationship capable of satisfying the relatedness need. Relatedness need satisfaction is important in the same way that all three of the psychological needs are important—namely, because it predicts engagement, personal growth, health, and well-being. Relatedness to others is particularly important because it provides the social context that supports internalization, which is the process through which one person takes in and accepts as his or her own another person's belief, value, or way of behaving.

When people experience psychological need satisfaction, they experience the day-to-day psychological nutriment (psychological need satisfaction) necessary for active engagement, having “a good day,” and subjective experiences of vitality and energy.

READINGS FOR FURTHER STUDY

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Implicit Motives

IMPLICIT MOTIVES

ACQUIRED NEEDS

- Social Needs

- How Implicit Motives, as Acquired Psychological Needs, Motivate Behavior

ACHIEVEMENT

- Origins of the Need for Achievement

 - Socialization Influences

 - Developmental Influences

- Atkinson's Model

 - Tendency to Approach Success

 - Tendency to Avoid Failure

 - Combined Approach and Avoidance Tendencies

 - What Achievement Strivings Predict

- Achievement for the Future

- Dynamics-of-Action Model

- Conditions That Involve and Satisfy the Need for Achievement

 - Moderately Difficult Tasks

 - Competition

 - Entrepreneurship

AFFILIATION

- Duality of Affiliation Motivation

- Conditions That Involve the Affiliation and Intimacy Duality

 - Fear and Anxiety

 - Establishing Interpersonal Networks

 - Maintaining Interpersonal Networks

- Conditions That Satisfy the Affiliation Need

 - Facebook

POWER

- Conditions That Involve and Satisfy the Need for Power

 - Leadership and Relationships

 - Drinking Alcohol

 - Aggression

 - Influential Occupations

 - Prestige Possessions

Goal Pursuit and Perspective Taking
 Is the Implicit Power Motive Bad?
 Leadership Motive Pattern
 Compassionate Leadership Profile
 Effectiveness of U.S. Presidents
 Four Additional Social Needs

SUMMARY

READINGS FOR FURTHER STUDY



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Consider the first picture above—the one on the left. As you look at that picture, let your mind wander wherever it seems to want to go. Then, after a moment's reflection, use the scene in the picture to create an imaginative story that has a beginning, a middle, and an end. Consider who the people in the picture are and what they are thinking and wanting. As you do so, answer each of the following questions:

- What is happening?
- Who are the people?
- What happened before?
- What are the people thinking about and feeling?
- What do they want?
- What will happen next?

Take another four or five minutes to create an imaginative story for the second picture, and then another four to five minutes to create an imagine story for the third picture. Again, let your mind wander to wherever it wants to go as you look at the people in the picture and then answer each of the six questions.

Perhaps you feel that it is not necessary to actually write out the stories. Okay, but if you did take the time to write imaginative stories, then you just completed a brief version of the Picture Story Exercise (PSE; Atkinson, 1958; Pang, 2010; Pang & Schultheiss, 2005), the most widely used assessment tool to measure implicit motives. The PSE is a research-based version of the original Thematic Apperception Test (TAT; Morgan & Murray, 1935). The logic underlying the PSE is that a person's needs can be inferred from imaginative material generated in response to an ambiguous cue. In the PSE, research participants are typically shown six pictures. The pictures above are not the same pictures as used in the PSE, because the reader might want to take the PSE under more controlled conditions to produce a valid and interpretable score. But the pictures are similar in spirit

to those used in the PSE. Once a person generates a series of six imaginative stories, then trained experts score the contents of the stories using a previously validated coding system. The interested reader can find details on the PSE's scoring system by reading Schultheiss and Pang (2007) or Smith (2000). If the reader is interested in administering the PSE in a personal research project, Pang (2010) provides step-by-step guidelines for how to administer, score, and interpret the PSE.

IMPLICIT MOTIVES

Implicit motives are enduring (trait-like), nonconscious needs that influence what the person thinks about, feels, and does, and these needs motivate the person toward the pursuit and attainment of specific social incentives (Schultheiss & Brunstein, 2010). Implicit means unconscious—without conscious awareness. An implicit motive is a psychological need that is implied or inferred from the person's characteristic thought, emotions, and behavior.

Implicit motives stand in contrast to explicit motives. Explicit motives are people's conscious, readily accessible, and verbally stated motivations. For instance, if someone asked you, "Do you have a strong need for achievement?" "Do you love challenges?" and "Will you persist in the face of failure?" the answers to these questions represent explicit achievement motivation. Explicit motives are assessed with self-report questionnaires.

Implicit motives for achievement are different, as they are based on one's emotional reactions during a challenging task and whether you really emotionally want to persist in the face of failure. One way to think about the difference between implicit and explicit measures is that with explicit measures people describe themselves (e.g., "I like challenges" and "I do not fear failure"), while implicit motives are inferred from what people write in response to the picture cues on the PSE (Schultheiss, Yankova, Dirlikov, & Schad, 2009).

When it comes to predicting people's behavior, implicit motives do a better job than do explicit motives (McClelland, Koestner, & Weinberger, 1989). Hence, the topic of this chapter is not on what people say their motives are but, rather, it is on the unconscious forces (implicit motives) that arise from situational cues that cause emotional reactions that then predict, guide, and explain people's behavior and lifestyle.

What a person "needs" within an implicit motive is to experience a particular pattern of affect or emotion. For instance, a person with a strong need for achievement typically experiences strong interest, enthusiasm, joy, and pride while engaging in a challenging task. A person with little or no need for achievement, on the other hand, does not experience this same pattern of affect. Instead, this person typically experiences negative affect, such as anxiety, shame, and embarrassment while engaging in that same challenging task. Hence, people with a strong implicit achievement motivation emotionally "need" to challenge themselves, because challenges are the vehicle to generate a highly desirable pattern of affect and emotion.

Similarly, people with a strong affiliation or a strong power implicit motive "need" to involve themselves in close relationships and in opportunities for social impact, respectively, because close relationships are the vehicle to generate positive affect and positive emotion for the person with a high need for affiliation while opportunities for social influence are the vehicle to generate positive affect and positive emotion for the person with a high need for power. With that said, look back at the three pictures at the beginning of the chapter. Which one conjures up within you the most positive gut-felt emotion? Why is that? Alternatively, which picture does nothing for you emotionally? Why is that?

It might be difficult to really grasp what a person needs with an implicit motive, so imagine that you are a participant in this illustrative experiment (Dufner et al., 2015). In a laboratory situation, the experimenter shows you a series of pictures and each individual picture is closely associated with one of the themes of achievement, affiliation, and power—like those pictures on the first page of this chapter. Before asking you to view the pictures, the experimenter tapes a sensor to the zygomaticus

muscle of your face (the smiling muscle, see Figure 13.2). Such a sensor can pick up very subtle smiles, even one's that cannot be seen by the human eye. If you have even the slightest pleasure reaction to the picture, the sensor will pick it up. Also, after each picture, the experimenter asks you to agree or disagree with the question: I had a positive feeling while viewing this picture. The point of the experiment is to understand what makes you tick—what sort of situations give you pleasure.

In many ways, life is like this—a series of situations, such as personal challenges, social interactions, and influence attempts. Encountering and being in these various situations generates either positive, neutral, or negative emotional reactions and the positive situations feel emotionally rewarding while the negative situations feel emotionally punishing. The more rewarding such situations are, the more we desire them and seek them out (i.e., they motivate us).

David McClelland was a pioneer researcher in the field of implicit motives. He traced his doubts about the validity of self-report motivations from his youthful experiences in which he observed consistent contradictions between what people said they would do and what they later actually did. His own example of this contradiction was best represented by listening to what people who attended church on Sunday said they would do during the week and then observing what they actually did and did not do on the other six days of the week (McClelland, 1984). He believed that people's thoughts, feelings, and behaviors were affected by forces that were unknown even to themselves—that is, to unconscious motives. His twofold conclusion was that (1) implicit motives are unconscious and cannot be measured by self-report and (2) implicit motives predicted people's behavior and performance, whereas explicit motives predicted only people's attitudes and values (McClelland, Koestner, & Weinberger, 1989).

As shown in Box 7, the study of implicit processes extends beyond unconscious motivation to include unconscious attitudes as well.

ACQUIRED NEEDS

No one is born with a need for achievement, a need for affiliation, or a need for power. Yet each of us develops some or all of these strivings, at least to a degree. Personal experience, socialization opportunities and demands, and our unique developmental history teach us to expect a more positive emotional experience in some situations than in other situations. The anticipation of experiencing such positive emotionality is what leads us to organize our lifestyle around further activity in these domains rather than in other domains. Over time, because of these repeated emotional experiences, we acquire preferences for those particular situations, hobbies, and careers that are associated with our acquired needs. Some of us learn to prefer and enjoy situations that challenge us with explicit standards of excellence (i.e., achievement needs). Others learn to prefer and enjoy situations that afford warm relationship opportunities (i.e., affiliation needs). And others learn to prefer and enjoy situations that allow them to exert influence over others (i.e., power needs).

Chapter 6 presented the motivational literature on inherent psychological needs. All of us need autonomy, competence, and relatedness, because these are universal human needs. In contrast, implicit needs have a social (rather than an innate) origin. Social needs originate from preferences gained through experience and socialization. These needs develop within us as acquired individual differences—as an acquired or a learned part of our personality. So the way to think about these needs is to adopt an individual differences approach. Everyone has some level of each need for achievement, affiliation, and power, more or less. This chapter traces the social origins of the need for achievement, affiliation, and power and discusses how each need, once acquired, manifests itself in thought, emotion, action, and lifestyle.

Social Needs

In the acquisition of implicit motives, early childhood experience is of paramount importance. Infants lack language (the word “infancy” literally means “without language”); they also lack cognition

BOX 7 *Implicit Attitudes*

Question: Why is this information important?

Answer: It expands unconscious processes to include not only motivation but also attitudes.

Implicit means implied or inferred. Implicit motivations are inaccessible to conscious awareness and are only inferred from some source of evidence, such as our behavior or psychophysiology. Explicit means fully revealed. What is explicit is known directly and is fully consciously accessible. Just as the implicit–explicit distinction applies to our motivations, it applies to our attitudes (Greenwald, Nosek, & Banaji, 2003; Greenwald, Poehlman, Uhlmann, & Banaji, 2009).

An attitude is an evaluation of an object, person, place, thing, or idea. It is a judgment of good versus bad, like versus dislike, pleasant versus unpleasant. Like motivations, attitudes are both implicit and explicit, and we can have conflicting implicit and explicit attitudes toward the same object. It can be hard to accept the idea that the attitudes we hold are anything but explicit and consciously chosen and filtered. Nevertheless, implicit attitudes do predict our behavior (Greenwald et al., 2009) and well-being (Leavitt, Fong, & Greenwald, 2011). For a demonstration of how pervasive and important implicit attitudes can be, I invite the reader to spend some part of this afternoon interacting with the following website: <https://implicit.harvard.edu/implicit/>.

This website offers the Implicit Association Test (IAT; Greenwald et al., 2003). The IAT measures attitudes that people are unable (or unwilling) to report, and the IAT is especially insightful when it reveals an implicit attitude that you did not know you had. On this website, you take a 15-minute online test to assess your implicit attitudes toward gender (female–male), weight (fat–thin), sexuality (gay–straight), race (black–white), disability

(disabled–abled), skin tone (light skin–dark skin), various world religions, various ethnicities (Asians, Native Americans, Arabs-Muslims), or various people (presidential candidates).

In taking the IAT, attitude objects appear on the screen (young people, old people) and the person presses a key to classify those attitude objects into value categories (good, bad). All pairs are presented (young–good, old–good, young–bad, old–bad), and the computer records the person’s reaction time to make each separate categorization. The IAT essentially measures the strength of the association between an attitude object and its evaluation. Fast (easy, quick) reaction times imply a strong association between the two, while slow reaction times (i.e., you have to think about it) imply a weak association. Typically, the reaction time data show that some pairs (old–good, young–bad) are weakly linked while other pairs (old–bad, young–good) are strongly linked. This difference implies a prejudice, or at least a preference for one object over the other. With these reaction times data in hand (the IAT provides individualized feedback), you can compare your implicit attitude with your explicit attitude, as in answering the explicit attitude question, “Which statement best describes you?” (from Greenwald et al., 2003):

- ☐ I strongly prefer young people to old people.
- ☐ I moderately prefer young people to old people.
- ☐ I like young people and old people equally.
- ☐ I moderately prefer old people to young people.
- ☐ I strongly prefer old people to young people.

Sometimes implicit–explicit attitudes agree. But sometimes they conflict. In those latter cases, explicit attitudes tell us only half the story about how we really feel about an attitude object. For the other half of the story, we need to become aware of our implicit attitude. A good place to start is to spend some of your afternoon interacting with the aforementioned website.

and intelligence in the adult sense of these terms. The language of infancy is affect, desire, and emotion. Infants want and feel, rather than think. Desires and feelings represent the language of the unconscious, while thoughts and words represent the language of the conscious. It is during the first two years of life that infants begin to develop preferences to experience strong positive emotion to the attainment of particular classes of incentives.

Throughout infancy and early childhood, children engage in behavior that produces either positive or negative affect. They may walk, climb a stair, or reach for a toy and then experience strong positive emotion such as joy and pride with goal attainment, or frustration and shame with goal failure. Experience teaches each of us to expect positive emotional reactions in response to some incentives rather than others (McClelland, 1985). This positive emotionality in the pursuit of a

standard of excellence is the emotional and developmental origin of acquiring a preference for situations that offer a standard of excellence. With positive emotion, the child develops a positive goal anticipation upon encountering a new standard of excellence and anticipates joy and pride. Positive emotion to this particular class of incentives (standards of excellence) is the developmental origin of the need for achievement. Of course, children encounter other situations as well. They may involve themselves in close relationships with other people—talking with others, being hugged, and playing cooperatively. Strong positive emotion in these situations can generate an enduring preference for social relationship situations and foster goal anticipation and positive emotionality in future social settings. Such is the developmental origin of the need for affiliation. Children also involve themselves in situations such as gaining prestige, status, influence, and social power. Strong positive emotions in these situations tend to generate an enduring preference for social influence situations and to foster goal anticipation and positive emotionality in similar situations. Such is the developmental origin of the need for power.

Once acquired in early childhood, people in later life experience implicit needs as emotional and behavioral potentials that are activated by particular situational incentives (Atkinson, 1982; McClelland, 1985). That is, when an incentive associated with a particular need is present (e.g., a date is an affiliation incentive, an inspirational speech is a power incentive), the person high in that particular need experiences emotional and behavioral activation (i.e., feels hope, seeks interaction). The primary need-activating incentive for each social need appears in Table 7.1.

In an extensive investigation of how people acquire social needs, one group of researchers sought to determine the childrearing antecedents of adult needs for achievement, affiliation, and power (McClelland & Pilon, 1983). The researchers initially scored the parental practices of mothers and fathers of 78 5-year-old boys and girls. When the children grew to the age of 31, the researchers assessed the implicit motives of each adult to see which early socialization experiences, if any, would predict adults' implicit motives. Only a few childrearing antecedents emerged as significant, but the few that did illustrate some early origins. Adults high in the need for achievement generally had parents who imposed high standards. Adults with high needs for affiliation generally had parents who used praise as a socialization technique. Adults with high needs for power generally had parents who were permissive about sex and aggression.

The finding that few childrearing experiences predict adult motives suggests that social needs can and do develop and change over time. For instance, some occupations foster achievement strivings more than do other occupations, because they provide opportunities for moderate challenges, independent work, personal responsibility for outcomes, and rapid performance feedback. People in such achievement-congenial occupations (e.g., entrepreneurs) show marked increases in their achievement strivings over the years compared to people in achievement-noncongenial occupations (e.g., nursing, teaching) (Jenkins, 1987). Similarly, workers in jobs that require assertiveness (e.g., sales) show increases in the need for power over the years (Veroff, Depner, Kulka, & Douvan, 1980). Overall, the development of implicit motives begins in very early childhood and continues throughout life.

Table 7.1 Social Incentive That Activates Each Implicit Motive

| Implicit Motive | Social Incentive That Activates Each Need |
|-----------------|---|
| Achievement | Doing something well to show personal competence |
| Affiliation | Opportunity to please others and gain their approval; involvement in a warm and secure relationship |
| Power | Having impact on others |

How Implicit Motives, as Acquired Psychological Needs, Motivate Behavior

Implicit motives—the needs for achievement, affiliation, and power—are activated and aroused by a specific class of social incentives (Table 7.1). That is, a teenager plays a game of basketball and, while playing, encounters challenges such as dribbling behind one's back, spinning the ball on an index finger, trying to dunk, or taking shots from the three-point line. If dribbling, spinning, dunking, and shooting produce positive emotions such as interest and pride, then the social incentive of being challenged becomes associated with positive emotion, and an emotion-based preference for challenging situations develops. If dribbling, spinning, dunking, and shooting produce negative emotions such as anxiety and shame, then the social incentive of being challenged becomes associated with negative emotion and no such emotion-based preference for challenging situations develops. Over time, challenging situations and positive emotion go hand in hand, and it is the anticipation of positive emotion in the face of a challenging task that is the implicit motive for achievement.

Notice that implicit motives are mostly reactive in nature. They lie dormant within us until we encounter a potentially need-satisfying incentive that activates a particular pattern of emotionality. For example, picture 1 at the beginning of the chapter often pulls achievement-related emotions and strivings out of those with an implicit motive for achievement. That is, a race is experienced as a standard of excellence, and such an incentive typically conjures up positive emotion and positive goal anticipation in those high in achievement strivings. That same picture and the thought of confronting a standard of excellence will typically generate neutral or negative emotion and negative goal anticipation in those low in achievement strivings. Picture 2 often pulls for affiliation-related emotions and strivings, at least for people with an implicit motive for affiliation. That is, the picture offers a potential social opportunity to make friends, to deepen a friendship, or to reunite with lost friends, and the thought of a warm, close, secure relationship will conjure up positive emotion and positive goal anticipation (a happy ending, such as social acceptance) in those high in affiliation strivings. Similarly, that same picture tends to generate neutral or negative emotion and negative goal anticipation (an unhappy ending, such as rejection) in those low in affiliation strivings. Picture 3 often pulls for power-related emotions and strivings.

Implicit motives are not only reactive, however, as people also learn to anticipate the emergence of these same social incentives in their daily lives. People learn that particular occupations, organizations, and recreational events, for example, are primarily opportunities for doing well and demonstrating personal competence, for pleasing others and gaining their approval and for participating in warm and secure relationships, or for having an impact on others. Based on this personal experience, people gravitate toward the environments that are capable of activating need-congenial emotions that functionally satisfy their implicit motives. The person high in achievement strivings might enter business to become an entrepreneur or a stockbroker, while the person high in power strivings might enter management, run for political office, or become a stage performer such as a comedian, magician, or entertainer.

Whether social needs are reactive or anticipatory, the core of implicit motives is the desire for particular affective (emotional) experiences. The fundamental question therefore becomes, In what situations do you feel most strong, fulfilled, and satisfied? What makes you really happy? From this point of view, if you know what sort of activities and environments make you happy, then you have a good insight into the makeup of your own implicit motivation profile. In brief:

- *High achievement strivings:* Feel interest, joy, arousal, excitement, and a sense of opportunity when given a difficult challenge that offers immediate diagnostic feedback about your performance. Feel happy when pursuing goals such as winning, diagnosing personal competence, and improving the self, as often happens in sports and various domains of risk-taking (e.g., investing in stocks, entrepreneurship). You feel excited and energized by standards of excellence and when evaluating your performance against personal standards.

- *High affiliation strivings*: Feel calmness accompanied by warm, positive affect in situations that offer comfort and interpersonal security (Wirth & Schultheiss, 2006). Feel happy when pursuing activities such as cuddling (family in bed together on a Saturday morning) or just relaxing with a close friend at the coffee shop or beach. You feel a calm, satisfying joy when you are in close contact with others and when forming and maintaining positive personal relationships.
- *High power strivings*: Feel strong, sharp arousal spikes that generate a burst of epinephrine, testosterone, and increased blood pressure and muscle tone (Hall, Stanton, & Schultheiss, 2010). Feel happy when pursuing activities such as riding a roller coaster and making a persuasive speech in front of a large audience. You feel strong and empowered during social influence attempts, when attaining high social status, when in a position of leadership, and when dominating and directing others.

The satisfaction of an implicit motive brings immediate affective (emotional) gratification, and it therefore provides a deeply satisfying answer to the age-old question: What makes you happy?

ACHIEVEMENT

The need for achievement is the desire to do well relative to a standard of excellence. It is the individual's unconscious, but frequently recurring, preference to feel positive affect upon improving his or her performance, making progress on a challenging task, and experiencing "success in competition with a standard of excellence" (McClelland, Atkinson, Clark, & Lowell, 1953).

A standard of excellence is any challenge to a person's sense of competence that ends with an objective outcome of success versus failure, win versus lose, or right versus wrong. Competition with a standard of excellence is a broad term that encompasses (following Heckhausen, 1967): competition with a task (e.g., solving a puzzle), competition with the self (e.g., running a race in a personal best time), and competition against others (e.g., becoming the class valedictorian).

What all types of achievement situations have in common is that the person has encountered a standard of excellence and has been energized by it, largely because he or she knows that the forthcoming performance will produce an emotionally meaningful evaluation of personal competence. A "standard of excellence" needs to be defined broadly to include not only meeting an explicit standard of excellence as determined by others (one's teacher, a sales quota, and qualifying time to make the Olympic games), because it also includes attaining a personal best and even a subjective experience that one did indeed rise to a challenge. That said, there are only two outcomes that follow a competition with a standard of excellence: success or failure (Pang, 2010).

When facing standards of excellence, people's emotional reactions vary. Individuals high in the need for achievement generally respond with approach-oriented emotions such as hope, pride, and anticipatory gratification. Individuals low in the need for achievement, however, generally respond with avoidance-oriented emotions such as anxiety, defense, and the fear of failure. People's behavioral responses to standards of excellence also vary. When confronting a standard of excellence, people show differences in choice, latency, effort, persistence, and the willingness to take personal responsibility for the ensuing success/failure outcome (Cooper, 1983). High-need achievers, compared to low-need achievers, choose moderately difficult to difficult versions of tasks instead of easy versions (Kuhl & Blankenship, 1979; Slade & Rush, 1991); they quickly engage in achievement-related tasks rather than procrastinate (Blankenship, 1987); they show more effort and better performance because pride energizes them (Karabenick & Yousseff, 1968; Raynor & Entin, 1982); they persist in the face of difficulty and failure on moderately difficult tasks (Feather, 1961, 1963); and they take a personal responsibility for successes and failures rather than seeking help or advice from others (Weiner, 1980).

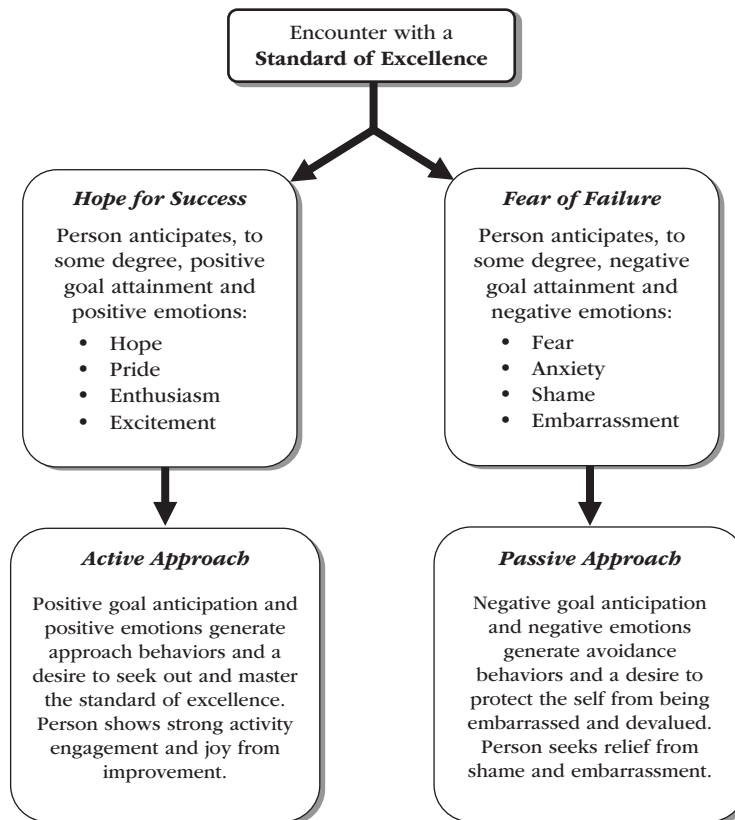


Figure 7.1 Positive versus Negative Emotional Reactions People Experience upon Encountering a Standard of Excellence

As depicted in Figure 7.1, standards of excellence offer a two-edged sword (Covington & Omelich, 1979). A standard of excellence simultaneously arouses in people both the desire to approach it and do well and the desire to avoid it and not embarrass oneself. In part, these standards excite us and we react with approach emotions and strong engagement behavior. These same standards of excellence also bring us anxiety, and we react with avoidance emotions and strong disengagement behavior (although the fear of failure can also motivate effort and persistence as the person strives to avoid or escape from punishing shame and guilt).

Origins of the Need for Achievement

Socialization Influences

Strong and resilient achievement strivings arise, in part, from socialization influences (Heckhausen, 1967; McClelland & Pilon, 1983). Children develop relatively strong achievement strivings when their parents provide the following: independence training (e.g., self-reliance), high performance aspirations, realistic standards of excellence (Rosen & D'Andrade, 1959; Winterbottom, 1958), high ability self-concepts (e.g., "This task will be easy for you"), a positive valuing of achievement-related pursuits (Eccles-Parsons, Adler, & Kaczala, 1982), explicit standards for excellence (Trudewind, 1982), a home environment rich in stimulation potential (e.g., books to read), a wide scope of experiences such as traveling, and exposure to children's readers rich in achievement imagery (e.g., *The Little Engine That Could*; deCharms & Moeller, 1962). After years of investigation, the effort to

identify the childhood socialization practices of high-need achievers was only partly successful, however, largely because longitudinal findings began to show that achievement strivings change a great deal from childhood to adulthood and that adult achievement strivings often changed from one decade to the next (Jenkins, 1987; Maehr & Kleiber, 1980).

Developmental Influences

Achievement-related emotions and motivations show a predictable developmental pattern (Stipek, 1984). Children are not born with pride or shame; neither is an innate emotion. Instead, pride emerges from a developmental history of success episodes ending in mastery and task success; shame emerges from a developmental history of failure episodes ending in ridicule (Stipek, 1983). Developmentally, we learn to be pride-prone or shame-prone when facing a standard of excellence.

Atkinson's Model

The initial effort to understand achievement motivation was led by John Atkinson's Expectancy \times Value model of achievement behavior, which includes his later dynamics-of-action model. Atkinson represented achievement striving and behavior as an inherent struggle of approach versus avoidance. All of us experience standards of excellence as a two-edged sword: Partly we feel excitement and hope and anticipate the pride of a job well done; partly we feel anxiety and fear and anticipate the shame of possible humiliation. Thus, achievement motivation exists as a balance between the emotions and beliefs underlying the tendency to approach success versus the emotions and beliefs underlying the tendency to avoid failure.

Atkinson (1957, 1964) argued that the need for achievement only partly predicts achievement behavior. Achievement *behavior* depends not only on the individual's dispositional, implicit achievement strivings but also on his or her task-specific probability of success and the incentive for succeeding at that task. For Atkinson, some tasks had high probabilities for success, whereas others had low probabilities for success. Also, some tasks offered greater incentive for success (positive emotion, sense of satisfaction) than did others. For instance, consider the classes you are presently taking. Each course has a different probability of success (e.g., a senior-level advanced calculus course is generally harder than is an introductory-level physical education class) and a different incentive value (e.g., doing well in a course in your major is generally valued more than doing well in an elective course outside your major).

Atkinson's theory features four variables: achievement behavior and its three predictors—need for achievement, probability of success, and incentive for success. Achievement behavior is defined as the tendency to approach success, abbreviated as *Ts*. The three determining factors of *Ts* are (1) the strength of a person's need for achievement (*Ms*, motive to succeed), (2) the perceived probability of success (*Ps*), and (3) the incentive value of success (*Is*). Atkinson's model is expressed in the following formula:

$$Ts = Ms \times Ps \times Is$$

Tendency to Approach Success

Ms corresponds to the person's need for achievement. *Ps* is estimated from the perceived difficulty of the task and from the person's perceived ability at that task. The variable *Is* is equal to $1 - Ps$. Therefore, if the probability of success is 0.25, the incentive for success at that task would be 0.75 ($1.00 - 0.25$). That is, incentive value for success during difficult tasks is high whereas it is low during easy tasks. To make sense of the behavioral tendency to approach success (*Ts*), consider a high school wrestler who is scheduled to wrestle two different opponents this week. The first opponent is last year's state champion ($Ps = 0.1$), so he consequently has a strong incentive to beat the champ ($Is = 1 - Ps$, which = 0.9). The second opponent is his equal ($Ps = 0.5$) so he consequently has

a moderate incentive to succeed ($Is = 0.5$). If we use an arbitrary number like 10 to characterize the wrestler's dispositional need for achievement (Ms), Atkinson's theory predicts the wrestler will experience the greater achievement motivation for the second wrestler ($Ts = 2.50$, because $10 \times 0.5 \times 0.5 = 2.50$) than for the first wrestler ($Ts = 0.90$, because $10 \times 0.1 \times 0.9 = 0.90$), because optimal challenge ($Ps = 0.5$) provides the richest motivational combination of expectancy of success and incentive for success.

Tendency to Avoid Failure

Just as people have a need for achievement (Ms), they also have a motive to avoid failure (Maf) (Atkinson, 1957, 1964). The tendency to avoid failure motivates the individual to defend against the loss of self-esteem, the loss of social respect, and the fear of embarrassment (Birney, Burdick, & Teevan, 1969). The tendency to avoid failure, abbreviated Taf , is calculated with a formula that parallels that for Ts :

$$Taf = Maf \times Pf \times If$$

Maf represents the motive to avoid failure, Pf represents the probability of failure (which, by definition, is $1 - Ps$), and If represents the negative incentive value for failure ($If = 1 - Pf$). Thus, if an individual has a motive to avoid failure of, say, 10, then the tendency to avoid failure on a difficult task ($Pf = 0.9$) can be calculated as 0.90 ($Maf \times Pf \times If$, which $= 10 \times 0.9 \times 0.1 = 0.90$).

Combined Approach and Avoidance Tendencies

Atkinson conceptualized Ms as a motivational force to seek out achievement situations and Maf as a motivational force to escape from (or be anxious about) achievement situations. Thus, to engage in any achievement task is to enter into a risk-taking dilemma in which the person struggles to find a balance between the attraction of pride, hope, and social respect on the one hand versus the repulsion of shame, fear, and social humiliation on the other hand. When Ts is greater than Taf , the person approaches the opportunity to test personal competence against the standard of excellence, but when Taf is greater than Ts , the person hesitates or avoids the opportunity altogether. Atkinson's complete formula for predicting the tendency to achieve (Ta) and hence for displaying achievement-related behaviors (i.e., choice, latency, effort, and persistence) is as follows:

$$Ta = Ts - Taf = (Ms \times Ps \times Is) - (Maf \times Pf \times If)$$

Although the model can appear to be overwhelming at first, in actuality one needs to know only three variables: Ms , Maf , and Ps . Notice that Is , Pf , and If are all calculated solely from the value of Ps (if $Ps = 0.3$, then $Is = 0.7$, $Pf = 0.7$, and $If = 0.3$). If you work through several numerical examples, you will find two general principles that underlie these numerical values. First, Ta is highest when Ts is greater than Taf and lowest when Taf is greater than Ts (a personality factor). Second, Ta is highest when Ps equals 0.5 and lowest when Ps is around 0.9 (task is too easy to generate an incentive to succeed) or 0.1 (task is too difficult to be motivating).

What Achievement Strivings Predict

People with strong achievement strivings—that is, people in which Ts is greater than Taf —show relatively greater persistence on tasks of moderate difficulty, a preference to engage in moderately difficult tasks, greater attention and effort in these tasks, and better performance on moderately difficult tasks (Cooper, 1983; Pang, 2010). They tend to experience interest and satisfaction for attaining standards of excellence only when they seek achievement for their own sake; they do not derive intrinsic pleasure and satisfaction from attaining excellence that has been externally set or prescribed by others. High achievers also have a strong preference for those achievement tasks that

offer concrete, direct, task-related, and immediate performance feedback, largely because they use such feedback as a means to make progress and to improve their future performances.

Achievement for the Future

Not all achievement situations are alike, as some have implications that affect one's future achievement efforts, whereas others have implications only for the present (Husman & Lens, 1999; Raynor, 1969, 1970, 1974, 1981). For example, a track athlete tries to win a race not only to experience the pride of a moment's accomplishment, but a win in today's race might lead to invitations to other important track meets, such as qualifying for the state championships or gaining a college scholarship.

"Future achievement orientation" refers to an individual's psychological distance from a long-term achievement goal (e.g., winning the state championship). It is the degree to which the individual anticipates and integrates the future into his or her psychological present (Lens, Paixao, Herrera, & Grobler, 2012). The importance of future achievement orientation is that, other things being equal, any achievement goal perceived far away in time receives less approach-versus-avoidance weight than does a goal in the very near future. That means future goals generate less approach than do immediate goals. However, future achievement strivings can add to present-day achievement motivation by adding additional future motivation to present motivation (e.g., motivation for today + motivation for next week + motivation for next month + motivation for next year + motivation for one's career; Raynor, 1981). Thus, achievement behavior is a function of not only *Ms*, *Maf*, and *Ps*, but also whether the present achievement will lead toward some future achievement.

From this point of view, achievement behavior is a series of steps in a path, and those achievement situations that are psychologically near have more impact on *Ta* than those that are psychologically far (Gjesme, 1981), although achievement strivings that are psychologically far can nevertheless add to and strengthen *Ta* in the present (Raynor & Entin, 1982). As one thinks about his or her achievement for the future, one can motivationally benefit from the positive incentive value of future goal attainments (Husman & Shell, 2008). Such findings have led some researchers to suggest that the effort to extend one's future time perspective during the goal-setting process is a motivationally constructive practice (De Volder & Lens, 1982; Vansteenkiste, Simons, Soenens, & Lens, 2004).

Dynamics-of-Action Model

Atkinson's theory of achievement motivation was an episodic one; its goal was to predict what a person will do at a particular moment (episode) in time. Hence, the theory needed to know only the person's enduring achievement strivings (*Ms*, *Maf*) and the perceived probability of success at the task at hand (*Ps*). The dynamics-of-action model extends Atkinson's episodic view to also explain and predict changes in achievement strivings and behavior over time. In the dynamics-of-action model, achievement behavior occurs within a stream of ongoing behavior (Atkinson & Birch, 1970, 1974, 1978). That stream of behavior is determined largely by three forces: instigation, inhibition, and consummation (Blankenship, 1982, 1987, 1992, 2010).

Instigation is *Ts*. Instigation causes a rise in approach tendencies; it is the amount of motivation to do something.

Inhibition is *Taf*. Inhibition causes a rise in avoidance tendencies; it is the amount of motivation to not do something.

Instigation and inhibition are synonyms for *Ts* and *Taf*. The one new variable in the dynamics-of-action model is consummation.

Consummation refers to the fact that performing an activity brings about its own cessation (e.g., running, eating, drinking, sleeping, reading this book). The consummatory force decreases the motivation to continue to engage in an ongoing behavior; it is the motivation to stop and take a rest.

Adding consummatory forces allows achievement behavior to be understood as dynamic (changing over time) instead of as episodic or static. For instance, your achievement strivings during any one college class change as the class progresses throughout the semester week after week. After 16 weeks, people often feel that they are tired of the class, saying, “Okay, thanks, that’s enough. It is now time to do something else.” The same consummatory sentiment occurs while practicing, studying, exercising, walking, watching TV, and so forth.

The four panels in Figure 7.2 portray achievement behaviors over time (Blankenship, 1987, 2010). Each panel shows one individual’s behavioral preference in achievement task (a task that arouses both hope for success and fear of failure) and for a nonachievement task (an emotionally neutral task that represents relaxation or taking a break). Panel 1 plots the achievement strivings of a high need for achievement person; panel 2 plots the achievement strivings of a high need for

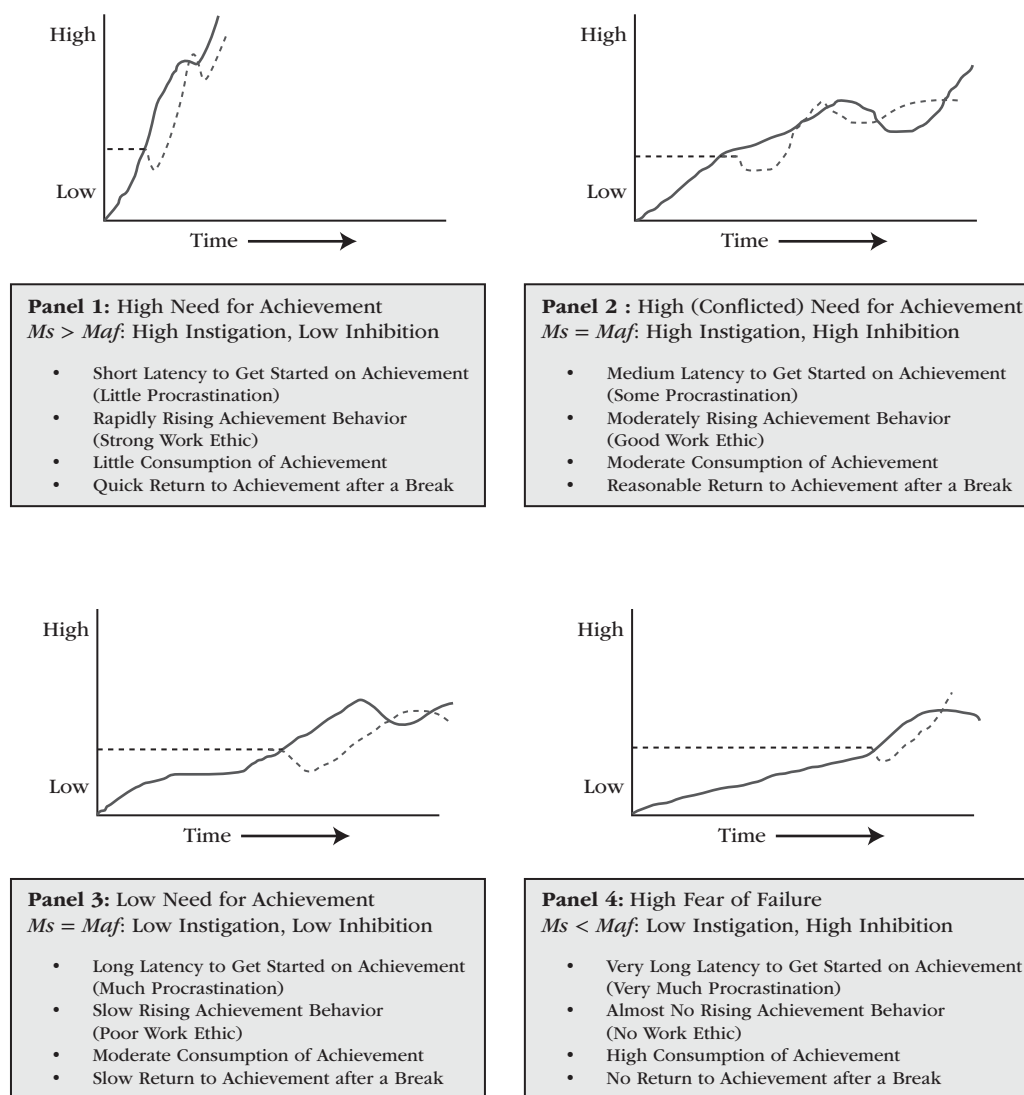


Figure 7.2 Streams of Behavior for People High and Low in M_s and M_{af}

Note: Solid line represents tendency strength to engage the achievement-related task; dashed line represents tendency strength of nonachievement task.

achievement person who also has a high fear of failure; panel 3 plots the achievement strivings of a low need for achievement person; and panel 4 plots the achievement strivings for a person high in the fear of failure (and low in the need for achievement). Plotted on the y-axis is the tendency strength to engage in the achievement and nonachievement behaviors. Notice that in Figure 7.2 all four individuals begin interacting first with the nonachievement-related activity (e.g., the child comes home from school and begins to watch television, the employee comes to work and casually surfs the Internet). The key questions then become:

- How long does it take to start the achievement task (e.g., studying, working)?
- Once the achievement task is begun, how much persistence will there be?
- How much effort will the person display during the achievement task?
- How quickly will the achievement behavior consume itself?
- How quickly will the nonachievement behavior consume itself (you can only watch so much television)?
- After taking a break by engaging in the nonachievement task, how long will it take to return to the achievement task?

Three important messages are communicated in Figure 7.2:

1. Latency to begin an achievement task depends on motive strength (M_s versus M_{af}).
2. Persistence on an achievement task depends on motive strength (M_s versus M_{af}).
3. Switching to a nonachievement task (taking a break) occurs with rising consumption.

Conditions That Involve and Satisfy the Need for Achievement

Three situations involve and satisfy the need for achievement: moderately difficult tasks, competition, and entrepreneurship (McClelland, 1985).

Moderately Difficult Tasks

High-need achievers ($M_s > M_{af}$) outperform low-need achievers ($M_{af} > M_s$) on moderately difficult tasks. High-need achievers do not, however, outperform low-need achievers on easy or difficult tasks (Karabenick & Yousseff, 1968; Raynor & Entin, 1982). Performance on a moderately difficult task activates in the high achiever a set of positive emotional and cognitive incentives not socialized into the low achiever. Emotionally, moderately difficult tasks provide an arena for best testing skills and experiencing emotions such as pride and satisfaction. Cognitively, moderately difficult tasks provide an arena for best diagnosing one's sense of competence and level of ability (Trope, 1975, 1983). Hence, moderately challenging tasks provide a mixture of pride from success and information to diagnose abilities that motivates high-need achievers more than it does low-need achievers (Atkinson, 1981; Trope & Brickman, 1975).

Competition

Interpersonal competition captures much of the risk-taking dilemma inherent in achievement settings. It promotes positive emotion, approach behavior, and improved performance in high-need achievers, but negative emotion, avoidance behaviors, and debilitated performance in low-need achievers (Covington & Omelich, 1984; Epstein & Harackiewicz, 1992; Ryan & Lakie, 1965; Tauer & Harackiewicz, 1999). Consider that high-need achievers seek diagnostic ability information (Trope, 1975), seek opportunities to test their skills (Epstein & Harackiewicz, 1992; Harackiewicz, Sansone, & Manderlink, 1985), value competence for its own sake (Harackiewicz & Manderlink,

1984), are attracted to self-evaluation opportunities (Kuhl, 1978), and enjoy demonstrating or proving their ability (Harackiewicz & Elliot, 1993). Competition offers all these attributes and is therefore attractive to high-need achievers (Harackiewicz & Elliot, 1993). For low-need achievers, competition's evaluative pressures arouse mostly anxiety and avoidance (Epstein & Harackiewicz, 1992).

Entrepreneurship

McClelland (1965, 1987) found that high-need achievers often display the behavioral pattern of entrepreneurship. He assessed the need for achievement in a group of college students and then waited 14 years to check on the occupational choices they made. Each occupation was classified as either entrepreneurial (e.g., founder of own business, stock-broker) or not (e.g., service personnel). Results confirmed that most entrepreneurs were high-need achievers in college. Entrepreneurship appeals to the high-need achiever because it requires taking moderate risks and assuming personal responsibility for one's successes and failures. It also provides concrete, rapid performance feedback (e.g., moment-to-moment profits and losses), feedback that generates emotions such as pride and satisfaction, and feedback that allows one to continuously diagnose personal competence and rate of improvement. High-need achievers prefer just about any occupation that offers challenge, independent work, personal responsibility, and rapid performance feedback (Jenkins, 1987; McClelland, 1961).

AFFILIATION

In its early study, the need for affiliation was conceptualized as "establishing, maintaining, or restoring a positive, affective relationship with another person or persons" (Atkinson, Heyns, & Veroff, 1954). According to this definition, the need for affiliation is not the same construct as extraversion, friendliness, or sociability. In fact, early investigators noted that persons high in the need for affiliation were often less popular than persons low in affiliation strivings (Atkinson et al., 1954; Crowne & Marlowe, 1964; Shipley & Veroff, 1952). They were less popular, yet keenly aware of the social networks around them (i.e., they knew who was friends with whom). Rather than being rooted in extraversion and popularity, the need for affiliation is rooted in a fear of interpersonal rejection (Heckhausen, 1980). People with high-need affiliation tend to interact with others so to avoid negative emotions, such as rejection and anger (Schultheiss & Hale, 2007). They come across not as extraverted, friendly, or sociable but, instead, as "needy," mostly because they spend time seeking reassurance from others. The need for affiliation then can be thought of as the need for approval, acceptance, and security in interpersonal relations.

The more contemporary view of affiliation strivings now recognizes its two facets: the need for approval and the need for intimacy. This dual view of affiliation strivings answers the criticism that the former conceptualization was too heavy on rejection anxiety and too light on affiliation interest (Boyatzis, 1973; McAdams, 1980; Weinberger, Cotler, & Fishman, 2010). The call for a more positive conceptualization of affiliation strivings (i.e., intimacy motivation) was answered by giving attention to the motive to engage in warm, close, positive interpersonal relations that hold little fear of rejection (McAdams, 1980, 1982a, 1982b; McAdams & Constantian, 1983; McAdams, Healy, & Kraus, 1984). The intimacy motive reflects a concern for the quality of one's social involvement. It is a willingness to "experience a warm, close, and communicative exchange with another person" (McAdams, 1980). At the core of strong intimacy strivings is the desire and need to share (to self-disclose) one's inner life (desires, feelings, and goals) with a close other (McAdams, 1989).

A profile of how the need for intimacy expresses itself appears in Table 7.2. An individual with a high need for intimacy thinks frequently about friends and relationships; writes imaginative stories about positive affect-laden relationships (on the PSE); engages in self-disclosure, intense listening,

Table 7.2 Profile of High Intimacy Motivation

| Category | Description |
|-------------------|---|
| Thoughts | Of friends, of relationships |
| Story Themes | Relationships produce positive affect, reciprocal dialogue, and expressions of commitment, union, and interpersonal harmony |
| Interaction Style | Self-disclosure; intense listening habits; many conversations. |
| Autobiography | Themes of love and dialogue are mentioned as personally significant life experiences |
| Peer Rating | Rated as warm, loving, sincere, nondominant |
| Memory | Enhanced recall with stories involving themes of interpersonal interactions |

and frequent conversations; identifies love and dialogue as especially meaningful life experiences; is rated by others as warm, loving, sincere, and nondominant; and tends to remember life episodes that involve interpersonal interactions. When they are not engaged in social interaction, they typically wish that they were (McAdams & Constantian, 1983).

Duality of Affiliation Motivation

The need for affiliation has its dark side, because it is mostly about a fear of rejection, while the need for intimacy has its bright side, because it is mostly about an attraction to warm, close relationships. The full picture of affiliation strivings includes a theoretical conceptualization that includes both its positive and negative aspects.

This duality suggests complex developmental antecedents. The best predictor of high affiliative strivings in adults is parental neglect (i.e., deprivation of affiliation). This infantile neglect explains the adult's fear of rejection and social anxiety. High-intimacy individuals, in contrast, are happy, well-adjusted, and pleasant to be around. From an early age, they smile more, laugh more, and make eye contact during face-to-face conversation. In elementary school, their teachers rate them as cooperative, popular, and friendly (McAdams, Jackson, & Kirshnit, 1984).

Overall, the affiliative motive is complex—it is in fact a two-edged sword (Weinberger et al., 2010). It has its positive dimension in a desire for closeness and a heartfelt pleasure in being with and sharing with others. But it has its negative dimension as well, which includes a fear of rejection and anxiety about relationships. Perhaps this duality is not as surprising as it first may seem, however, when one thinks about how relationships play themselves out in people's developmental and daily lives, as relationships and social interactions offer joy from successfully achieving interpersonal intimacy but also devastating distress from rejection and loss.

Conditions That Involve the Affiliation and Intimacy Duality

The principal condition that involves the need for affiliation is the deprivation from social interaction (McClelland, 1985). Conditions such as loneliness, rejection, and separation raise people's desire, or need, to be with others. Hence, the need for affiliation expresses itself as a deficiency-oriented motive (the deficiency is a lack of social interaction). In contrast, the desire, or need, for intimacy arises from interpersonal caring and concern, warmth and commitment, emotional connectedness, reciprocal dialogue, congeniality, and love (McAdams, 1980). The need for intimacy expresses itself as a growth-oriented motive (the growth opportunity is enriching one's relationships). In the words of Abraham Maslow (1987), the need for affiliation revolves around "deprivation love," whereas the need for intimacy revolves around "being-love."

Fear and Anxiety

Social isolation and fear-arousing conditions are two situations that increase a person's desire to affiliate with others (Baumeister & Leary, 1995; Schachter, 1959). Under conditions of isolation and fear, people report being jittery and tense, feeling as if they are suffering and are in pain, and seeing themselves as going to pieces. To reduce such anxiety and fear, people typically adopt the strategy of seeking out others (Rofé, 1984). When afraid, people desire to affiliate for emotional support and to see how others handle the emotions they feel from the fear object. For example, imagine camping out in the wilderness and hearing a sudden, loud noise in the middle of the night. The sudden, unexplained noise might produce fear. While feeling this way, people seek out others, partly to see if others seem as afraid and partly to gain emotional and physical support. Having other people around while anxious is comforting, and it helps us clarify the threatening situation, identify possible coping strategies, and carry out our coping attempts (Kirkpatrick & Shaver, 1988; Kulik, Mahler, & Earnest, 1994). The popularity of mutual support groups (e.g., people with alcoholism, patients suffering a particular illness) provides some confirming testimony to the human tendency to seek out others when afraid or anxious.

Establishing Interpersonal Networks

To form new friendships, people with a high need for intimacy typically spend time interacting with others, join social groups, and establish stable and long-lasting relationships (McAdams & Losoff, 1984). As relationships develop, high-need intimacy individuals come to know more personal information and history about their friends (McAdams, Healy, & Krause, 1984; McAdams & Losoff, 1984). And they report being more and more satisfied as their relationships progress, whereas individuals with a low need for intimacy report being less and less satisfied with their developing relationships (Eidelson, 1980). Individuals with a high need for intimacy perceive the tightening bonds of friendship as need involving and as emotionally satisfying, whereas those with a low-need intimacy perceive the tightening bonds of friendship as stifling and as an entrapment.

Maintaining Interpersonal Networks

Once a relationship has been established, individuals with a high need for affiliation—involving either affiliation or intimacy motivations—strive to maintain those relationships by making more telephone calls and paying more visits to their friends (actual and online) than do those with a low need for affiliation (Boyatzis, 1972; Lansing & Hyns, 1959; McAdams & Constantian, 1983; Sheldon, Abad, & Hinsch, 2011). One study asked persons with high and low needs for intimacy to keep a logbook over a two-month period to record 10 20-minute friendship episodes (McAdams et al., 1984). Those with a high need for intimacy reported more one-on-one friendship episodes, more self-disclosure, more listening, and more trust and concern for the well-being of their friends. Even when thinking and talking about strangers, high-intimacy-need persons treat others differently than do low-intimacy-need persons, because they use more positive adjectives when describing others, and they avoid talking about others in negative terms (McClelland, Constantian, Pilon, & Stone, 1982).

Conditions That Satisfy the Affiliation Need

Because it is largely a deficit-oriented motive, the need for affiliation, when satisfied, brings out emotions like relief rather than joy. When interacting with others, people high in the need for affiliation go out of their way to avoid conflict (Exline, 1962), avoid competitive situations (Terhune, 1968), are unselfish and cooperative (McAdams, 1980), avoid talking about others in a negative way (McClelland, 1985), and resist making imposing demands on others (McAdams & Powers, 1981). They are sometimes described as “meek.” High-affiliation-need individuals prefer careers

that provide positive relationships and support for others (the helping professions; Sid & Lindgren, 1981), and they perform especially well under conditions that support their need to be accepted and included (McKeachie, Lin, Milholland, & Isaacson, 1966). When told that others will be evaluating them, high-affiliation-need people experience relatively high levels of anxiety via a fear of rejection (Byrne, 1961). Social acceptance, approval, and reassurance constitute the need-satisfying conditions for people high in the need for affiliation.

Because it is largely a growth-oriented motive, people satisfy the need for intimacy through achieving closeness and warmth in a relationship. Hence, people high in the need for intimacy more frequently touch others (in a nonthreatening way; McAdams & Powers, 1981), cultivate deeper and more meaningful relationships (McAdams & Losoff, 1984); find satisfaction in listening and in self-disclosure (McAdams, Healey, & Krause, 1984); and laugh, smile, and make eye contact more during face-to-face interactions (McAdams, Jackson, & Kirshnit, 1984). Such laughing, smiling, and looking lead others to rate high-intimacy-need persons as relatively warm, sincere, and loving human beings (McAdams & Losoff, 1984). Relatedness within a warm, close, reciprocal, and enduring relationship constitutes the need-satisfying condition for people high in the need for intimacy.

Facebook

The reader may understandably be a bit frustrated with the chapter's position that the need for affiliation is both a deficit (affiliation) and a growth (intimacy) motivation. How both of these statements can be true can be seen rather clearly in how people use the online site Facebook. Ken Sheldon, Neetu Abad, and Christian Hinsch (2011) observed that the frequency of Facebook use generated in people both feelings of interpersonal connection and satisfaction on the one hand and feelings of disconnection and dissatisfaction on the other hand.

When people feel lonely, isolated, rejected, distressed, etc., they often cope with this sense of relationship dissatisfaction by logging onto Facebook. So, in one sense, Facebook use is a coping response for distress and loneliness, as one is looking for something important that is missing in one's life. Being on Facebook, however, then provides the user with positive feelings in the context of relationships. Thus, while a feeling of disconnection from others is often what motivates Facebook use, a feeling of connection with others often arises during Facebook use to give people back those positive emotions. So, the need for affiliation often underlies the initial logging onto Facebook, while the need for intimacy often explains why the subsequent experience is rewarding and satisfying.

POWER

The essence of the need for power is a desire to make the physical and social world conform to one's personal image or plan for it (Winter & Stewart, 1978). People high in the need for power desire to have "impact, control, or influence over another person, group, or the world at large" (Winter, 1973).

Impact allows power-needing individuals to establish power.

Control allows power-needing individuals to maintain power.

Influence allows power-needing individuals to expand their power.

Such power strivings often center on a need for dominance, reputation, status, or position. High-power-strivings individuals not only seek out opportunities for dominance, reputation, status, and social position, but they also find deep emotional satisfaction in being recognized and praised for these power-motive behaviors and outcomes (Fodor, 2010). High-power-need individuals seek to become (and stay) leaders, and they interact with others with a forceful, take-charge style. When they do attain positions of leadership, they feel satisfied and accomplished. This can be seen in high-power-striving individuals' preference for highly competitive sports (e.g., hockey, wrestling)

that offer both an opportunity to exercise power and to attain public recognition for effectively enacting power and influencing others (Winter, 1973). When asked to recall the peak experiences in their lives, individuals high in the need for power report life events associated with strong positive emotions that occurred as a result of their impact on others, such as being elected to a leadership position or receiving applause from an audience (McAdams, 1982a).

Winter (1973) provides two scenarios that illustrate power strivings. In the first, research participants watched a film of an authority figure giving an influential speech (John F. Kennedy's presidential inaugural address), and in the second, another set of participants watched a hypnotist ordering students to behave in particular ways as an audience watched. After these experiences, Winter scored the arousal of their power strivings. As expected, these groups scored higher in power strivings (by writing stories rich in power-related imagery) than did a comparison group who did not view the film or hypnosis session (Winter, 1973).

Others have performed experiments that essentially replicated this procedure, but in addition to measuring power strivings, they added measures of mood and physiological arousal (Steele, 1977). As high-power-need individuals listened to inspirational speeches, their moods became significantly more lively and energetic, and their physiological arousal (measured by epinephrine/adrenaline) showed a striking increase. Based on these findings, the opportunity to involve one's power strivings fills the power-needing individual with a vigor that can be measured via fantasy, mood, and psychophysiological activation (Steele, 1977).

Conditions That Involve and Satisfy the Need for Power

Parents of future power-striving children impose very high developmental standards on their children and are willing to sacrifice their parental affection to get their children to live up to their imposed standards (i.e., the tough-minded, cold, and distant parent). The development of power strivings emerges as a reaction to harsh parental criticism and a thwarting of the psychological need for relatedness (or intimacy). What emerges is then a need for prestige and power to tell the world that he or she is not to be taken lightly and, in fact, is worthy of notice, admiration, and respect (Fodor, 2010).

Five social conditions are noteworthy in their capacity for involving and satisfying the need for power: leadership, drinking alcohol, aggression, influential occupations, and prestige possessions.

Leadership and Relationships

People with a high need for power seek recognition in groups and find ways for making themselves visible to others, apparently in an effort to establish influence (Winter, 1973). Power-seeking college students, for example, write more letters to the university newspaper, and power-seeking adults willingly take risks in achieving public visibility (McClelland & Teague, 1975; McClelland & Watson, 1973). They argue more frequently with their professors, and they show an eagerness in getting their points across in the classroom (Veroff, 1957). In selecting their friends and coworkers, power-striving individuals generally prefer others who are in a position to be led (Fodor & Farrow, 1979; Winter, 1973). When hanging out with their friends, they tend to adopt an interpersonal orientation that takes on more of a tone of influence than it does a tone of intimacy (McAdams, Healey, & Krause, 1984).

To test the influence of the need for power on tendencies toward leadership, experimenters arranged to have a group of strangers interact with each other for a short time (Fodor & Smith, 1982; Winter & Stewart, 1978). Power-seeking individuals talked more and were judged to have exerted more influence. However, the power-seeking individuals were not the best liked, nor were they judged to have contributed the most to getting the job done or for coming to a satisfactory conclusion. In fact, groups that had high-power-need leaders were the ones that produced the poorest decisions. These groups exchanged less information, considered few alternative strategies, and reached poorer final decisions than did groups with a leader low in the need for power. These findings suggest that power-seeking leaders attempt to make others follow their personal plan, even though their assertiveness is often detrimental to group functioning.

In dating relationships, high-power-need men generally fare poorly (Stewart & Rubin, 1976). And they fare no better in marriage, because they generally make poor husbands, at least from the spouse's point of view (McClelland, 1975). In both dating and marriage, high-power-need women do not suffer the same poor outcomes that men do, apparently because they resist using interpersonal relationships as an arena for satisfying their power needs (Winter, 1988). High-power-need men, however, do tend to inflict verbal and physical abuse on their partners (Mason & Blankenship, 1987).

Drinking Alcohol

Drinking alcohol is an opportunity to involve and even accentuate one's need for power (Fodor, 2010). When people drink, they generally report feeling stronger and less inhibited. Thus, people who have strong power motivation typically find drinking alcohol to be a gateway to enhanced personal dominance. It is also a gateway to become disinhibited from social constraints, and particularly to be released from those social constraints that involve aggression and exploitive sex. When drinkers write imaginative stories to the PSE, alcohol consumption leads them to write more power-oriented stories. And people who drink the most are often the power-striving individuals. Thus, power strivings and drinking alcohol seem to go together like peanut butter and jelly.

Aggression

If the need for power involves desires for impact, control, and influence, then aggression ought to be one means for both involving and satisfying one's power needs. To some extent, the relationship between the need for power and aggression holds true, as men high in power strivings do get into more arguments and do participate more frequently in competitive sports (McClelland, 1975; Winter, 1973). However, the relationship between the need for power and aggression is diluted because society largely controls and inhibits people's acts of overt aggression. For this reason, aggressive manifestations of the need for power largely express themselves as impulses to (rather than actual acts of) aggression. Males and females with high needs for power report significantly more impulses to act aggressively (McClelland, 1975). When asked, "Have you ever felt like carrying out the following: yelling at someone in traffic, throwing things around the room, destroying furniture or breaking glassware, or insulting clerks in stores?" individuals high in the need for power report significantly more impulses to carry out these acts (Boyatzis, 1973).

Societal inhibitions and restraints largely constrain the power-seeking person's expression of aggression, but when societal inhibitions are removed, high-power-need men are more aggressive than are their low-power-need counterparts (McClelland, 1975; McClelland, Davis, Kalin, & Wanner, 1972; Winter, 1973). Alcohol is one socially acceptable means of gaining a release from societal inhibitions, and power-seeking men do indeed act relatively more aggressively after drinking (McClelland et al., 1972). When life becomes stressful and frustrating, high-power-need individuals sometimes seek alcohol as a means for inflating their sense of control (Cooper, Frone, Russell, & Mudar, 1995). Similarly, power-seeking men, but not power-seeking women, frequently respond to stress and setbacks by inflicting abuse on their intimates (Mason & Blankenship, 1987). This research suggests that people can not only increase power through reputation, prestige, and leadership but they can also create the perception of heightened power through strategies such as drinking alcohol, risk-taking, gesturing and posturing, using abusive language, using drugs, and driving very fast.

Influential Occupations

People high in the need for power are attracted to occupations such as business executives, teachers/professors, psychologists, journalists, clergy, and international diplomats (Winter, 1973). Each of these occupations shares a common denominator in that the person in the occupational role is in the position to direct the behavior of other people in accordance with some preconceived plan (Winter & Stewart, 1978). People in some of these professions speak to and influence audiences (teachers, journalists, clergy); others have inside information they use to influence people

(psychologists, diplomats), while others have a professional status that allows them to tell others what to do (business executives). Furthermore, these careers equip the individual with the rewards and punishments necessary for sanctioning the behavior of others. The teacher, cleric, diplomat, journalist, and business executive, for instance, all have the means for rewarding and punishing other people's compliance or disobedience (through grades, heavenly rewards, deal making, articles, and salaries). Thus, people can involve and satisfy their power strivings through the job they choose.

Prestige Possessions

People high in the need for power tend to amass a collection of power symbols, or "prestige possessions" (Winter, 1973). Power-seeking individuals are more likely to own a rifle or pistol, a convertible car, or a truck that exudes status and power (McClelland, 1975).

Goal Pursuit and Perspective Taking

One strength of the need for power is a laser focus on their goals (Guinote, 2007, 2017). Individuals high in the need for power more readily acquire the goals and outcomes they seek than do individuals low in the need for power. Power increases approach tendencies and decreases inhibitory tendencies (Anderson & Berdahl, 2002). High power and taking action simply go together (Galinsky, Gruenfeld, & Magee, 2003). During negotiations, for instance, high-power individuals are more likely to express anger, and this strategy often gets them what they want, largely because they are seen as tough negotiators who win concessions from others (Sinaceur & Tiedens, 2006).

One weakness of the need for power is that it reduces the person's perspective taking ability (Galinsky, Rucker, & Magee, 2016). This leads to a lack of empathy and a tendency to relate to people as a means to an end. Individuals with a high need for power tend to make social connections, for instance, based on how useful that other person might be in helping them reach their goals (Gruenfeld et al., 2008). Overall, many of the disturbed social relations that individuals with high power suffer through can be traced back to their diminished capacity for perspective taking and empathy.

Is the Implicit Power Motive Bad?

People high in the need for power typically harbor inclinations that are both benevolent and malevolent toward others. Like a superhero, they strive to improve the world. But, like a villain, they strive to make everyone their servant. David Winter devoted his professional life to understanding the implicit power motive, and he offered the following characterization of whether power strivings represented a good or a bad influence on society:

Power is like fire: It can do useful things; it can be fun to play with and to watch; but it must be constantly guarded and trimmed back, lest it burn and destroy.

(Winter, 1973, p. xviii)

With that metaphor in mind, we can look at the contribution of power strivings to the effectiveness of leaders, such as U.S. presidents.

Leadership Motive Pattern

A special variant of the need for power is the leadership motive pattern (McClelland, & Boyatzis, 1982; McClelland & Burnham, 1976; Spangler & House, 1991; Winter, 1991). Leadership motivation consists of the following threefold pattern: (1) high need for power, (2) low need for affiliation, and (3) high inhibition (McClelland, 1982). Thus, the leadership motive pattern features individuals who desire to exercise influence, are not concerned with being liked, and are well controlled or self-disciplined. For instance, the stereotypical military commander or traditional father figure fits this leadership motive pattern rather well.

Such a constellation of high power, low affiliation, and self-control generally results in effective leaders and managers (McClelland, & Boyatzis, 1982). The characteristic of an internal controlling style (i.e., high inhibition) is important because managers who are high in power, low in affiliation, and high in inhibition are generally productive, successful, and rated highly by workers (McClelland & Burnham, 1976). In contrast, managers who are high in power, low in affiliation, but low in inhibition are often unsuccessful and rated lowly by workers. The lack of self-discipline in a leader can lead followers to perceive that leader as narcissistic or self-aggrandizing. Apparently, strong self-control leads power-striving managers to internalize characteristics associated with effective management, such as discipline. So, if one is to be an effective leader, power strivings need to be complemented by self-disciplined inhibition (i.e., power under control). Power under control often gives rise to charismatic leadership and high morale among one's followers (Winter, 2010).

Compassionate Leadership Profile

The leadership motive pattern was highly studied in the late 20th century, a time when hierarchical forms of management and leadership were in vogue. But times change. Researchers who study the question “Who makes an effective leader?” now find that high intimacy with one's followers is an asset, not a liability. As shown in Table 7.3, the contemporary compassionate leadership profile is characterized by high power, high affiliation, and high inhibition (Steinmann et al., 2015).

The one difference between the traditional leadership motive pattern and the contemporary compassionate leadership profile is high, rather than low, affiliation/intimacy motivation. A leader with high affiliation motivation is likely to motivate followers by communicating concern, respect, appreciation, and support. Such a leader is likely to develop high-quality leader–follower interactions and relationships. Such a leader is also likely to coach and mentor with compassion and by communicating and offering empathy and care. The managerial goal is not so much “get the work done” (as per a leader with a traditional leadership motive pattern) as it is to empower the worker to develop skills, resources, and job satisfaction that allow that worker to be more productive and hence, in the long term, to “get the work done.” In a test of the effectiveness of the compassionate leadership profile, a group of researchers assessed the implicit motives of 70 workplace managers in Germany and found that it was the leaders who showed the compassionate leadership profile—and not the traditional leadership motive pattern or any other profile of social motives—who were most likely to lead groups of workers to attain their goals (Steinmann et al., 2015).

A second way that an individual with high need for power displays an effective and compassionate leadership style is by embracing a moral identity within his or her self-concept. Powerful leaders with a weak moral identity act in a self-interested way, while powerful leaders with a strong moral identity act with a sense of responsibility toward others (DeCelles et al., 2012).

Effectiveness of U.S. Presidents

The leadership motive provides a framework for assessing the effectiveness of U.S. presidents (Spangler & House, 1991; Winter, 1973, 1987, 2005, 2010). Winter (1973, 1987) coded the thematic content of each U.S. president's inaugural address for the social needs of achievement, affiliation, and power and used these scores to predict presidential effectiveness. Presidents generally

Table 7.3 Two Contrasting Implicit Motive Profiles to Characterize Effective Leadership

| Implicit Motive | Traditional Leadership Motive Pattern | Contemporary Compassionate Leadership Profile |
|-----------------|---------------------------------------|---|
| Power | High | High |
| Affiliation | Low | High |
| Inhibition | High | High |



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Figure 7.3 Former U.S. Presidents

considered strong by historians—Kennedy, Truman, Wilson, and both Roosevelts—scored relatively high on power needs and relatively low on affiliation needs. Power strivings were a particularly good predictor of “rated greatness” and “made great presidential decisions” (Winter, 1987). Interestingly, achievement strivings were associated with presidential ineffectiveness, because achievement-oriented presidents (e.g., Wilson, Nixon, Carter) were highly active but also frequently frustrated. Power-striving presidents have more success in the office because they use their communication skills, their combative skills, and their sense of humor. They also really enjoy the political scrimmage that is presidential politics (Winter, 2010).

Five variables define presidential effectiveness:

- Direct presidential actions (e.g., entering and avoiding war)
- Perceived greatness
- Performance on social issues
- Performance on economic issues
- International relations

To assess each president’s needs for power, affiliation, and inhibition, the researchers coded their inaugural speeches, presidential letters, and other speeches. The leadership motive pattern of high power, low affiliation, and high inhibition correlated significantly with all five measures of effectiveness. Apparently, when the United States elects a candidate with personal dispositions consistent with the leadership motive pattern, the nation is electing someone into office who will probably perform quite well, given the rather unique demands and challenges of the office. How effective each president featured in Figure 7.3 proved to be was rooted, in part, in the quality of their leadership motive pattern.

The leadership motive pattern also predicts when leaders will engage in war and when leaders will pursue peace (Winter, 1993). Of course, war has many nonpsychological causes, but on the psychological side, historical research shows that when leaders express a motive profile of high power and low affiliation, the probability of subsequent war increases. Using British history, British–German World War I communications, and U.S.–Soviet communications during the Cuban Missile Crisis as his database, Winter (1993) found that the motive patterns expressed in speeches foreshadow coming war-versus-peace decisions. When power imagery rose, war became a historically more likely event. When power imagery fell, war was less likely and ongoing wars tended to end. When affiliation imagery rose, war became a historically less likely event. When affiliation imagery fell, war was more likely to begin (Winter, 1993). According to this research, if you want to forecast whether a nation will enter into, avoid, or exit a war, read the speeches of the day and look for changes in whether the leaders are promoting influence (power) or relationships (affiliation).

Four Additional Social Needs

Besides those discussed here, other researchers argue for the importance of four additional acquired needs, including the need for cognition (Cacioppo, Petty, Feinstein, & Jarvis, 1996), the need for closure (Webster & Kruglanski, 1994), the need for structure (Neuberg & Newsom, 1993), and the uncertainty orientation (Sorrentino, 2013).

SUMMARY

Implicit motives are trait-like unconscious needs that motivate people's behavior toward the attainment of specific social incentives. The three implicit motives of achievement, affiliation, and power are learned or acquired through experience and socialization. The social incentive that activates the achievement motive and a corresponding pattern of positive emotion is the opportunity for challenge and doing something well to show personal competence. The social incentive that activates the affiliation motive and a corresponding pattern of positive emotion is the opportunity to be involved in a warm and secure relationship and the opportunity to please others and gain their approval. The social incentive that activates the power motive and a corresponding pattern of positive emotion is the opportunity for social influence and having an impact on others.

The need for achievement is the desire to do well relative to a standard of excellence. When facing standards of excellence, people's emotional reactions vary. High need for achievement individuals generally respond with approach-oriented emotions (e.g., hope) and behaviors, whereas low need for achievement individuals (high fear of failure) generally respond with avoidance-oriented emotions (e.g., anxiety) and behaviors. Atkinson's model of achievement and his dynamics-of-action model both explain why high-need achievers choose moderately difficult tasks, engage quickly and enthusiastically in achievement-related tasks, put forth more effort and perform better on moderately difficult tasks, persist in the face of difficulty and failure, and take a personal responsibility for successes and failures. The dynamics-of-action model adds that any stream of ongoing achievement behavior is determined not only by the need for achievement (instigation) and fear of failure (inhibition) but also by the achievement behavior itself (consummation). The conditions that involve and satisfy the implicit achievement motive are moderately difficult tasks, competition, and entrepreneurship.

The need for affiliation has two facets: affiliation (rejection anxiety) and intimacy (affiliation interest). The need for affiliation involves establishing, maintaining, and restoring relationships with others, mostly to avoid negative emotions such as disapproval and loneliness. The need for intimacy is the social motive for engaging in warm, close, relationships that produce positive emotions and hold little threat of rejection. Depriving people of the opportunity for social interaction is the principal condition that involves the need for affiliation, and social acceptance, approval, and

reassurance constitute its need-satisfying conditions. Engaging in, developing, and maintaining warm, close relationships are the conditions that involve the need for intimacy, and individuals with high intimacy needs are more likely to join social groups, spend time interacting with others, and form stable, long-lasting relationships that are characterized by self-disclosure and positive affect. People with a high implicit intimacy motive laugh, smile, and make more eye contact during face-to-face interaction, and participating in these warm relationships constitutes the condition that satisfies the need for intimacy.

The need for power is the desire to make the physical and social world conform to one's personal image for it. People high in the need for power desire to have impact, control, and influence over others or over the world at large. High-power-need individuals strive for leadership and recognition in small groups, drink alcohol to enhance their sense of dominance, experience frequent impulses of aggression, prefer influential occupations, amass prestige possessions, and generally get what they want during goal pursuit. A special variant of the need for power is the leadership motive pattern, which consists of the threefold pattern of high need for power, low need for intimacy, and high inhibition. Leaders, managers, and U.S. presidents who possess a constellation of needs consistent with the leadership motive pattern (high power, low affiliation, high inhibition) generally perform well as leaders and are rated by others as effective. More recent research, however, shows that a compassionate leadership style is most effective, as it combines the benefits of power with compassion, perspective taking, and morality.

READINGS FOR FURTHER STUDY

Picture Story Exercise

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Part Two

Cognitions

Goal Setting and Goal Striving

COGNITIVE SPRINGS TO ACTION

PLANS

- Corrective Motivation
- Discrepancy
- Discrepancy, Emotions, and Feelings
- Two Types of Discrepancy

GOAL SETTING

- Goal–Performance Discrepancy
 - Goal Difficulty
 - Goal Specificity
 - Goal Congruence
- Difficult, Specific, and Congruent Goals Enhance Performance
- Feedback
- Criticisms
- Long-Term Goal Setting
- From Where Do Goals Come?

GOAL STRIVING

- Mental Simulations
- Implementation Intentions
 - Getting Started
 - Staying on Track
 - Resuming

GOAL DISENGAGEMENT

SUMMARY

READINGS FOR FURTHER STUDY

Mirrors don't lie. Lately, your mirror has been saying you added a few pounds. It is time to lose 10 pounds and get back on the road to physical fitness. You want to take action, but what? when? where? how?

Jogging seems sensible, so you start. At first, jogging is new, even fun, as you enjoy the outdoors and sense of accomplishment. A week goes by, but you do not lose much weight. You begin to wonder how much exercise is enough exercise. Another week goes by, and the pressures of everyday living

increase and compete for your time and attention. Each day, you find it more difficult to find the time and energy to exercise. After a month of lackluster progress, jogging is history.

Your smartphone has some exercise apps, so you check them out. One keeps track of how many steps you take during the day, and it displays your stepping through all sorts of informative graphs and figures. According to the app, fewer than 5,000 steps means you are sedentary. About 9,000 steps means you are fairly active. To lose weight, you need to take at least 12,000 steps per day.

Now you have a goal. No longer are you going to “do your best.” Now you are going to take 12,000 steps per day. You wake up the next day bent on taking those 12,000 steps, but your schedule and feet protest that 9,000 steps are enough. Because you cannot quite make it to 12,000 steps, you find yourself devising step-increasing strategies (e.g., take 200 steps around your apartment every few hours, take a lap around the mall prior to shopping). By the end of the third week, you take the 12,000 steps and feel the warm glow of accomplishment. After a month, you boldly decide to try for 13,000 steps per day. You now have a new goal. It will take more effort, more persistence, more focus, and an improved exercise strategy. But because you achieved your earlier goal and because your stamina has increased, you feel up to the lifestyle change. Eagerness has replaced apathy.

Another weight loss program illustrates these same motivational processes. Dieting is just as ambiguous a task as is exercising—how much can I eat? How many calories is too many? How do I know whether I am making progress? In order to translate general, long-term dieting goals into specific day-to-day action, this popular weight loss program recommends that each person consume foods within a daily point range, depending on the person’s current weight. In this system, all foods have a point value, depending on the food’s number of calories, grams of fat, and grams of fiber (e.g., two pancakes = 6 points). A daily point goal for a person of 180 pounds might be, for example, between 22 and 27 points. The basic idea is that the person starts each day with a “range of points” goal. The dieter is to plan his or her food choices to eat at least the minimum number of points (to maintain metabolism) but no more than the maximum number of points (to lose weight). Vigorous daily activity (exercise) can increase one’s daily points range. So, the dieter who takes 12,000 steps can increase the daily points goal to between 28 and 33 points. The idea is to leave behind the idea of a vague, ambiguous diet and, instead, to focus on a difficult and specific goal, keep track of food points consumed, and achieve this point goal day after day.

COGNITIVE SPRINGS TO ACTION

Cognitions are mental events. Cognition can be a difficult concept to define (a “messy construct”; Pajares, 1992, p. 307), as it is an umbrella construct that unites together mental constructs such as beliefs, expectations, goals, plans, mindsets, judgments, values, and the self-concept under a single banner that collectively function as causal determinants to action (Gollwitzer & Bargh, 1996). In this section, we investigate the following motivational agents in the cognition → action sequence:

Chapter 8

- Plans (Carver & Scheier, 1998)
- Goals (Locke & Latham, 2002)
- Implementation intentions (Gollwitzer, 1999)

Chapter 9

- Deliberative versus implementation mindsets (Gollwitzer & Kinney, 1989)
- Promotion versus prevention orientations (Higgins, 1997)
- Growth versus fixed mindsets (Dweck, 2006)
- Dissonance (Harmon-Jones & Mills, 1999)

Chapter 10

- Self-efficacy (Bandura, 1986)
- Perceived control (Skinner, 1996)
- Mastery beliefs (Diener & Dweck, 1978)
- Attributions (Weiner, 1986)
- Expectancy (Peterson, Maier, & Seligman, 1993)
- Values (Eccles & Wigfield, 2002)

Chapter 11

- Self-concept (Markus, 1977)
- Possible selves (Oyserman, Bybee, & Terry, 2006)
- Identity (Eccles, 2009)
- Self-regulation (Zimmerman, 2000)
- Self-control (Baumeister & Tierney, 2011)

As we will see, a cognitive mental event such as a goal or an expectancy functions as a “spring to action,” a moving force that energizes and directs action in purposive ways (Ames & Ames, 1984).

Throughout this section of the book, cognition is treated as a motivational force. The basic idea: If you change the contents of your thinking, then you change your motivational state. This position works fine for all the mental events listed earlier—from plans and goals to identity and self-control. But “cognition” is a larger construct that also includes phenomena, generally speaking, such as information processing, decision making, memory, and problem-solving. When motivation researchers think about the relation between motivation and cognition, the general position is that cognition operates in the service of motivation (Baumeister, 2016; Kruglanski et al., 2002). The idea is that the human brain basically arose out of the need to move around and obtain resources, such as food. Because we have needs and drives (“I’m hungry, I need food.”), we need to take action to meet those needs and to satisfy those drives. The incredible information-processing organ that is the human brain can really help us figure out how to do that and how to do it well.

PLANS

The first motivational spring to action studied was the “plan.” Indeed, the contemporary cognitive study of motivation began in 1960 when a trio of psychologists—George Miller, Eugene Galanter, and Karl Pribram—investigated how plans motivate behavior. According to these pioneers, people have mental representations of the ideal states of their behavior, environmental objects, and events. In other words, people have in mind what an ideal yoga pose looks like (ideal behavior), what an ideal hotel room would be (ideal environmental object), and what constitutes an ideal night in the town (ideal event). People are also aware of the present state of their behavior, environment, and events. That is, people have the knowledge of their current yoga pose (present behavior), hotel room (present object), and evening itinerary (present event).

Any mismatch perceived between one’s present state and one’s ideal state instigates an experience of “incongruity,” which has motivational properties. Suffering incongruity, people formulate a plan of action to remove that incongruity (Miller, Galanter, & Pribram, 1960; Newell, Shaw, & Simon, 1958; Powers, 1973). Hence, the essential motivational process underlying a plan is as follows: People have knowledge of both their present and ideal states, and any perceived incongruity between the two makes people uncomfortable enough to formulate and act on a plan of action

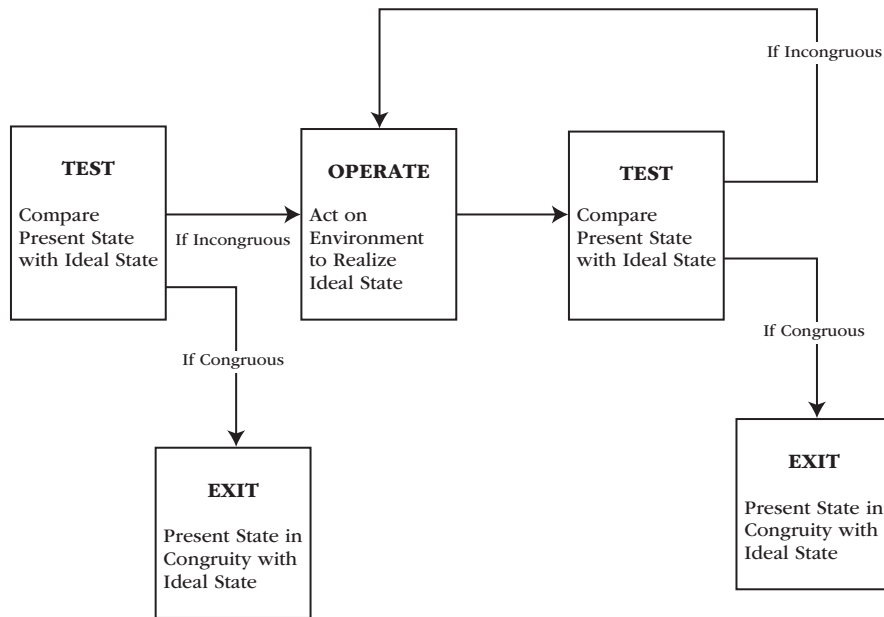


Figure 8.1 Schematic of the TOTE Model

to remove the incongruity so that the present state will transform into the ideal state. The incongruity is the motivational “spring to action,” and the plan directs behavior toward the pursuit of the ideal state.

The cognitive mechanism by which plans energize and direct behavior is the test–operate–test–exit (TOTE) model, as illustrated in Figure 8.1 (Miller, Galanter, & Pribram, 1960). *Test* means to compare the present state against the ideal. If the present state and the ideal state are the same (are congruous), nothing happens. A mismatch between the two (incongruity), however, springs the individual into action. That is, the mismatch motivates the individual to *operate* on the environment via a plan of action. That is, when you look in the mirror to check if your hair looks okay, you “test” or compare the way your hair presently looks in the mirror against the way you want your hair ideally to look. If your hair looks okay, you say “fine” and walk away from the mirror. But if you see a mismatch between your present hair and your ideal hair, then it is time to “operate” via a plan of action—you comb your hair, take a shower, use hairspray, or just wear a hat. After a period of action, the person again *tests* the present state against the ideal. If the feedback reveals that the incongruity continues to persist, then the person continues to *operate* on the environment (T-O-T-O-T-O, and so on). In daily life, T-O-T-O-T-O looks like, to continue the bad hair day example: Look in mirror—Comb your hair—Look in the mirror for feedback—Comb your hair some more—Look in the mirror again—Comb your hair some more, and so on. As long as the incongruity persists, action (“operate”) continues. If and when the present matches the ideal, the person *exits* the plan.

Consider a second example of the TOTE model. A painter takes an easel to a waterfall, paints the scenery, compares the canvas to the waterfall, and notices that the two are quite dissimilar. Because the canvas does not yet show a satisfactory representation of the waterfall, the painter operates on the painting to reflect on the canvas the ideal picture in her mind. The painter continually compares (tests) the painting on the canvas to its ideal in her mind. As long as incongruity persists, the painting continues (T-O-T-O-T-O, and so on). Only when the actual and ideal paintings match does the painter exit the plan and cease to paint. The ever-repeated process of comparing the present versus the ideal, followed by incongruity-reducing behavioral adjustments, is a common feature of everyday life.

Overcoming bad hair days and painting waterfalls illustrate the moment-to-moment influence plans have on our motivated behavior—getting started, putting forth effort, persisting over time, and eventually stopping. Dozens of additional illustrations are possible, including removing items from a “to-do” list, repairing a broken object until it is fixed, driving to a destination, revising a term paper, shopping, saving money for a trip, practicing a skill, developing or refining a technique, mowing the lawn, cleaning a sink full of dirty dishes, reading this chapter, and so on.

Plans can also be long term. For instance, how satisfied are you currently with the present state of your career/occupation? Marital status? Capacity to speak a foreign language? Events happen in life that make us aware of the incongruities that exist between our present and our ideal states. Our friend, for instance, might get an “ideal” job, an “ideal” marriage partner, or an “ideal” opportunity to travel or live abroad. When these incongruities cause enough discomfort to stir us into action (as we say to ourselves, “I want the ideal state more than I want my present state”), we formulate plans of action and start down the road that is T-O-T-O-T-O.

Corrective Motivation

The plan → action sequence portrays individuals as:

1. Detecting present–ideal inconsistencies
2. Generating a plan of action to eliminate the incongruity
3. Instigating plan-regulated behavior
4. Monitoring feedback as to the extent of any remaining present–ideal incongruity

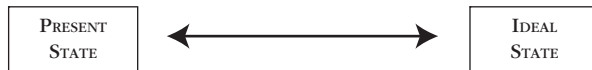
Most researchers (Campion & Lord, 1982; Carver & Scheier, 1998), however, no longer view plans of action as so fixed, static, and mechanical. Rather, plans are adjustable and subject to revision. Given an incongruity between present and ideal, one’s plan of action is as likely to change and undergo modification as is one’s behavior.

The emphasis on modifiable plans is important because it presents human beings as active decision makers who choose one of the following in a given set of circumstances: Act (“Operate”) to achieve the ideal state or change and revise an ineffective plan (Carver & Scheier, 1981, 1982). From this point of view, any present–ideal incongruity does not instigate an automatic, mechanical discrepancy-motivated action sequence. Rather, incongruity gives rise to a more general “corrective motivation” (Campion & Lord, 1982).

Corrective motivation activates a decision-making process in which the individual considers many different possible ways for reducing the present–ideal incongruity: change the plan, change behavior (increase effort), or withdraw from the plan altogether. That is, plan-directed behavior is a dynamic, flexible process in which corrective motivation energizes the individual to pursue the most adaptive course. The decision maker wonders, “What is the problem here? Do I need to work harder and smarter (operate more), or do I need to rethink the importance and viability of my plan?” Or, stated differently, the question is, “What is in need of change—my behavior or my cognition?”

Discrepancy

The more cognitive psychologists worked with “present state vs. ideal state” mismatches to study plans and corrective motivation, the more they came to see the larger construct of “discrepancy” as a core motivational construct. The basic idea behind discrepancy (a synonym for “incongruity”) is straightforward and can be represented by the magnitude of the arrow below that shows the difference or mismatch between one’s present state and one’s ideal state.



Present state represents the person's current status of how life is going. The ideal state represents how the person wishes life was going. When the present state falls short of the hoped-for ideal state, a discrepancy is exposed. It is the discrepancy—rather than the ideal state per se—that has motivational properties. Discrepancy creates the sense of wanting to change the present state so that it will move closer and closer toward the ideal state. The motivational question is not so much “What is the ideal state?” as it is “How much of a discrepancy exists between my present vs. ideal states?” Small discrepancies carry little motivational punch, while large discrepancies carry much motivational punch.

Here are a dozen everyday illustrations of discrepancies between what currently is (present state) and what we wish would be (ideal state). For instance, people who are stuck in traffic (present state) wish they were instead driving without interference (ideal state), and the awareness of the mismatch creates a want that motivates people to take action necessary to remove the rather bothersome discrepancy.

| Present State | Ideal State |
|---------------------------------|---------------------------------------|
| Stuck in traffic | Driving without interference |
| Poor penmanship | Excellent penmanship |
| The job you have | The job you want |
| How skillful you are | How skillful the guy on television is |
| Empty, blank crossword puzzle | Fully completed crossword puzzle |
| Current GPA | GPA needed to make the Dean's List |
| Messy, cluttered desktop | Clean, well-organized desktop |
| Suffering a headache | Feeling good and painfree |
| Not a member of the team | Member of the team |
| Having 200 more miles to drive | Being there |
| 10 laps to run around the track | 0 laps to run |
| 300 unread pages in this book | 0 unread pages |

When people ask themselves, “What can I do to increase my motivation?” those who study discrepancy-based motivation have a simple and very practical answer: Basically, create an ideal state in your mind. Or, more precisely, create an ideal state in your mind and reflect on the discrepancy that now exists between “what presently is” and “what is desired.”

Discrepancy, Emotions, and Feelings

Behavior involves getting from here to there. It involves getting from the present state to the ideal state. But it also matters how quickly or how slowly one gets from here to there. Because the rate of discrepancy reduction matters, affect or feelings are important (Carver & Scheier, 2011).

If a person is making a satisfactory rate of progress to reduce a goal discrepancy (e.g., “I need to be at the bus stop before 2:00 pm and, as I walk, I can tell that I am going to arrive early and catch the bus”), positive emotion arises. If, however, the same person is making an unsatisfactory rate of progress toward discrepancy reduction (“I need to be at the bus stop before 2:00 pm but, as I walk, I can tell that I am going to be late and miss the bus”), negative emotion arises. Positive emotion (positive feelings) means that you are doing better at something than you need to be doing; negative emotion (negative feelings) means that you are doing worse (Carver & Scheier, 1990, 1998). Thus,

feelings such as hope, excitement, eagerness, and enthusiasm signal that you are doing better than you need to, while emotions such as joy, delight, and bliss signal that you are doing much better. Similarly, frustration signals that you are doing worse than you need to, discouragement signals you are doing much worse, sadness signals you are doing much, much worse, and depression signals that you are doing much, much, much worse than you need to be doing (Carver & Scheier, 2011). Frustration, irritation, and anxiety make sense because they energize effort and facilitate discrepancy reduction, but demotivating sadness, despair, and depression mean that effort is perceived as futile, and one would be smarter to quit than to persist.

In goal striving, positive emotion is more than just a scorecard to tell you that you are doing better than you need to, and negative emotion is more than just a scorecard to tell you that you are doing worse than you need to. Emotions can also energize behavior. If you are doing worse than you need to be doing, you will not only feel negative emotion but you will also push harder—you will start running to catch the bus. If your running gets you back on schedule and you realize that you are now going to be early and catch the bus, then the successful behavior turns off the negative emotion. Alternatively, if you are doing better than you need to be doing, then you will probably coast a little—you will not stop walking to catch the bus, but you may ease back a little and perhaps glance in the store windows or pause to check your e-mail on your smartphone (Louro, Pieters, & Zeelenberg, 2007). Thus, emotion, affect, and feelings are not only a rate-of-progress scorecard, but are also a progress-pushing or easing motivator itself.

Two Types of Discrepancy

Two types of discrepancies exist (Bandura, 1990; Carver & Scheier, 1998). The first is *discrepancy reduction*, which is based on the discrepancy-detecting feedback that underlies plans and corrective motivation. Some aspect of the environment (e.g., a boss, scholarship opportunity, athletic opponent, a stopwatch) provides feedback about how well or how poorly current performance matches up with its ideal level. For instance, at work, the supervisor might tell the salesperson that 10 sales are not enough; 15 sales are needed. Similarly, a student might read in a brochure that his current 2.0 GPA is not enough for scholarship eligibility; a GPA of 3.0 is needed. In essence, the environment brings some standard of excellence (an ideal state) to the person's awareness and asks, essentially, "Are you currently performing at this desired level?"

The second type of discrepancy is *discrepancy creation*. Discrepancy creation is based on a "feed-forward" system in which the person looks forward and sets a future, higher goal. The person deliberately and proactively sets a higher goal—an ideal state that does not yet exist except in the performer's mind—and does not require feedback from a boss or a scholarship to impose it. For instance, the salesperson might, for whatever reason, decide to try for 15 sales in one week instead of the usual 10. Thus, the person creates for him- or herself a new, higher goal to pursue.

Discrepancy reduction is a negative feedback loop—a discrepancy arises, action is taken, and negative feedback (the discrepancy is getting smaller) terminates that action. A negative feedback loop turns off existing discrepancies. Discrepancy creation is a positive feedback loop—a discrepancy is created, action is taken, and positive feedback energizes further discrepancy creation. A positive feedback loop turns on new discrepancies.

In both cases—discrepancy reduction and discrepancy creation—it is the discrepancy (or incongruity) that provides the motivational basis for action. But two important distinctions between discrepancy reduction and discrepancy creation exist:

1. Discrepancy reduction corresponds to plan-based corrective motivation (discussed in the previous section), whereas discrepancy creation corresponds to goal-setting motivation (discussed in the next section).

2. Discrepancy reduction is reactive, deficiency overcoming, and involves a negative feedback system, whereas discrepancy creation is proactive, growth pursuing, and involves a positive feedback or “feed-forward” system.

As discussed next, goal setting is first and foremost a discrepancy-creating process (Bandura, 1990).

GOAL SETTING

Generally speaking, a goal is whatever an individual is striving to accomplish (Locke, 1996). When people strive to earn \$100, make a 4.0 GPA, graduate from college, sell 100 boxes of Girl Scout cookies, exercise for 30 minutes, or go undefeated in an athletic season, they engage in goal-directed behavior. More specifically, a goal is a future-focused cognitive representation of a *desired end state* that guides behavior (Hulleman, Schragar, Bodmann, & Harackiewicz, 2010).

Like plans, goals generate motivation by focusing people’s attention on the discrepancy (or incongruity) between their present level of accomplishment (no boxes of cookies sold) and their ideal level of accomplishment (100 boxes sold by the end of the month). Researchers refer to this discrepancy between present level of accomplishment and ideal level of accomplishment as a “goal–performance discrepancy” (Locke & Latham, 1990).

Goal–Performance Discrepancy

Generally speaking, people with goals outperform those without goals (Locke, 1996; Locke & Latham, 1990, 2002). And generally speaking, the same person performs better when she has a goal than when she does not have a goal. So people who create goals for themselves and people who accept the goals others set for them perform better than those who do not create or accept such goals. The finding that goals enhance performance is what makes the goal concept an appealing and practical motivational construct.

Consider one study in which elementary-grade students performed sit-ups for two minutes (Weinberg, Bruya, Longino, & Jackson, 1988). Some students set a goal for themselves as to how many sit-ups they would accomplish during the two minutes (goal-setting group), while others simply completed sit-ups without a predetermined goal (no-goal group). After two minutes of exercise, the goal-setting students completed significantly more sit-ups than did the no-goal students. In effect, the presence of a goal motivated exercisers more than did the absence of a goal. The first group of participants was not any healthier or athletic than the other group of participants. Instead, the presence of a goal energized, directed, and sustained their sit-up performance in a way that the absence of a goal did not.

This same performance-facilitating effect can be found in any number of other studies, including trying to lift weights, learn text information, sell products, shoot archery, conserve natural resources, increase work productivity, and lose weight (see Locke & Latham’s (1990) Table 2.5, which lists 88 different tasks in which goal–performance discrepancies lead to enhanced performance).

Goal setting generally enhances performance, but the type of goal one sets is a key determinant in the extent to which a goal translates into performance gains, because goals vary in how difficult, how specific, and how congruent with the self they are.

Goal Difficulty

Goal difficulty refers to how hard a goal is to accomplish. As goals increase in difficulty, performance increases in a linear fashion (Locke & Latham, 1990; Mento, Steel, & Karren, 1987; Tubbs, 1986). Relative to goals such as scoring 80 on a test, running a mile in 10 minutes, and making one new friend at a social event, more difficult goals would be scoring 90 on a test, running a mile in eight minutes, and making two new friends. The more difficult the goal, the more it energizes the performer.

This is so because people exert effort in proportion to what the goal requires of them. That is, easy goals stimulate low effort, medium goals stimulate medium effort, and difficult goals stimulate high effort (Earley, Wojnarowski, & Prest, 1987; Locke & Latham, 1984, 1990, 2002).

Goal Specificity

Goal specificity refers to how clearly a goal informs the performer precisely what he is to do. Telling a performer to “do your best” sounds like goal setting, but it is actually only an ambiguous statement that does not make clear precisely what the person is to do (Locke & Latham, 1990). On the other hand, telling a writer to have a first draft in one week, a revised draft in two weeks, and a final manuscript in three weeks specifies more precisely what the writer is to do and when she is to do it. Translating a vague goal into a specific goal typically involves restating the goal in numerical terms, although it generally just means being very specific in what you are asking the other person to do (e.g., instead of “be nice,” a more specific goal would be to “greet all guests proactively, smile, open your arms, call them by name, offer a refreshment, and tell them that you are glad that they are here”).

Goal specificity is important because specific goals draw attention to what one needs to do and reduces ambiguity in thought and variability in performance (Klein, Whitener, & Ilgen, 1990; Locke, Chah, Harrison, & Lustgarten, 1989). As to ambiguous thought, a vague goal such as “study hard” might be interpreted as “read the chapter” by one student but as “read the chapter, take notes, review it, and form a study group to discuss it” by a second student. As to variable performance, a vague goal (e.g., “work quickly” or “read a lot”) produces a relatively wide range of performances compared to giving a group of performers a specific goal (e.g., “complete the task in the next 3 minutes” or “read 100 pages”), which produces a relatively narrow range of performances that all hover around the goal level (Locke, Shaw, Saari, & Latham, 1981).

Goal Congruence

All goals are not equal. Some goals are fully endorsed, feel authentic, and are wholeheartedly accepted, embraced, and owned by the self; other goals, however, are not self-endorsed, feel artificial or socially manufactured, and are taken on without a sense of personal ownership. Self-congruent goals are those that reflect the self’s interests, needs, values, and preferences—they are goals that feel authentic and in harmony with the self; self-discrepant goals are those that neglect the self’s interests, needs, values, and preferences and instead reflect only social obligations or external pressures—they are goals that feel artificial and in conflict with the self (Sheldon & Elliot, 1998, 1999). A goal such as “become a doctor” for one person may be in harmony with the core self (e.g., you tell me to “become a doctor” and, yes, that is something I really want to do), but that same goal for another person might be in conflict with and have little fit with the self (e.g., you tell me to “become a doctor” but, no, that is not something I really want or value).

Goal concordance is important because self-concordant goals allow the person to tap into and draw from personal resources that energize, direct, and sustain goal pursuit (Sheldon & Elliot, 1999). When paired with a goal, personal interests, psychological needs, intrinsic motivation, internalized values, personal preferences, and inner motivational resources in general fuel and sustain greater energy, direction, and persistence. For the person with a self-concordant goal, attention and strategic thinking are easy and happen almost spontaneously (on their own), because they are supported by autonomous motivation (Koestner et al., 2008).

Difficult, Specific, and Congruent Goals Enhance Performance

Goals do not always enhance performance. Only those goals that are difficult, specific, and self-congruent do so in a reliable way (Koestner, Lekes, Powers, & Chicoine, 2002; Locke, Shaw, Saari, & Latham, 1981). Anyone who has simply listed a number of goals to accomplish (e.g., a “to-do list”) knows that there is a difference between having a goal and actually accomplishing it.

The reason difficult, specific, self-concordant goals increase performance while easy, vague, and self-discordant ones do not is motivational. Difficult goals *energize* the performer, specific goals *direct* that energy toward a particular course of action, and concordant goals both *energize* and *direct* the performer (Earley, Wojnaroski, & Prest, 1987; Sheldon & Elliot, 1999).

Difficult goals energize behavior, which is to say that they increase the performer's effort and persistence. The harder the goal, the greater the output of effort expended to accomplish it (Bandura & Cervone, 1983, 1986; Earley, Wojnaroski, & Prest, 1987). Difficult goals increase persistence because effort continues and continues until the goal is reached (LaPorte & Nath, 1976; Latham & Locke, 1975). The athlete trying for 45 sit-ups, for example, keeps performing sit-up after sit-up until all 45 are done. Difficult goals also decrease the probability that the performer will be distracted away from the task or will give up prematurely (LaPorte & Nath, 1976). The exerciser with a goal for "45 sit-ups" is more likely to keep going past 30, 35, and 40 sit-ups than is the exerciser with a lesser goal or with a "do my best" goal. With a difficult goal in mind, performers withdraw their effort and persistence only after the goal is accomplished, not when they get bored, frustrated, tired, or distracted.

Specific goals direct attention and strategic planning. Specific goals focus the individual's attention toward the task at hand and therefore away from tasks that are incidental (Kahneman, 1973; Locke & Bryan, 1969; Rothkopf & Billington, 1979). Specific goals tell the performer where to concentrate and precisely what to do (Klein, Whitener, & Ilgen, 1990; Latham, Mitchell, & Dossett, 1978; Locke, Chah, Harrison, & Lustgarten, 1989). In studies with students reading texts, for instance, readers with specific goals spent significantly more time looking at their text during a study session than did readers with ambiguous goals, who were more likely to let their eyes wander around the room (Locke & Bryan, 1969; Rothkopf & Billington, 1979). Specific goals also prompt performers to plan a strategic course of action (Latham & Baldes, 1975; Terborg, 1976), and specific goals lead people to use their task knowledge and strategies (Smith, Locke, & Barry, 1990). The weight loss program discussed in the chapter's opening vignette illustrates this point as the dieter needs to invest a good deal of knowledge and deliberate planning into the creation of a strategic plan if he or she is going to successfully limit the day's food intake to 25 points or less. Also, with a specific goal in mind, a performer who is unable to accomplish a goal on a first attempt will tend to drop or revise that strategy by creating a new and improved strategy (Earley, Wojnaroski, & Prest, 1987; Earley & Perry, 1987).

Self-concordant goals energize behavior, encourage persistence, direct attention, and inspire strategic planning. The reason why a person adopts and pursues a goal matters, as self-concordant goals (e.g., "I pursue this goal because it is interesting and important to me") allow performers to draw upon and vitalize inner motivational resources, while goals adopted for external reasons (e.g., social pressure, social obligation, social expectations) or internal pressures (e.g., doing what one "should" or "ought" do) leave these same inner motivational resources untapped (Koestner et al., 2008). In one study, college students were asked what goals they planned to pursue over the weekend, and they listed goals such as "write a rough draft of my research paper," "show my visiting friend the sights of Montreal," and "clean my room." These goal strivers were also asked why they planned to pursue those particular goals. Participants rated each goal on how self-concordant ("because you really believe that it is an important goal to have—you endorse it freely and value it whole-heartedly") or self-discordant ("because you would feel ashamed, guilty, or anxious if you didn't—you feel that you ought to strive for this") it was (Koestner, Lekes, Powers, & Chicoine, 2002, p. 235). To complete the study, the researchers then contacted the students after the weekend to ask how much goal progress they had made over the weekend on each goal. Goal concordance predicted goal progress rather well. In a follow-up study, college students were asked what New Year's resolutions (a self-change goal) they made in the first week of January. Again, extent of goal congruence and goal progress were assessed. As before, goal concordance predicted goal progress.

The role that goal difficulty, goal specificity, and goal concordance play in removing goal-performance discrepancies is shown in Figure 8.2. People show performance gains for their

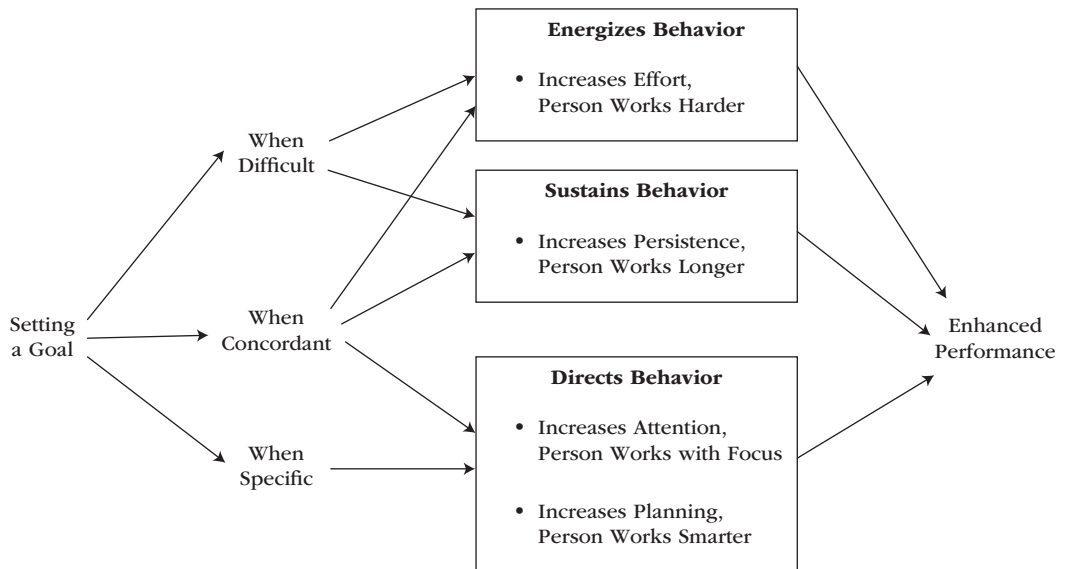


Figure 8.2 How Difficult, Specific, and Self-Concordant Goals Raise Performance to Remove Goal–Performance Discrepancies

sought-after goals because difficult goals energize and sustain behavior, because specific goals direct behavior, and because self-concordant goals energize, direct, and sustain behavior.

Goals generate motivation, but motivation is only one of the causes underlying performance. Performance also depends on factors that are not motivational, such as ability, training, coaching, and resources (Locke & Latham, 1984). Because these factors contribute to the quality of performance, no one-to-one correspondence exists between goals and performance. Thus, if two performers have comparable ability, training, coaching, and resources, then performers with difficult, specific, and self-concordant goals will likely outperform performers without such goals. This is an important practical point because when difficult, specific, and self-concordant goals fail to enhance performance, one might be well advised to focus on factors that are not motivational and that relate to increasing ability (via instruction, practice, role models, videotaped-performance feedback) or resources (via supplying equipment, books, tutors, computers, money).

Feedback

Difficult, specific, and self-concordant goals enhance performance, but one additional variable is crucial in making goal setting effective: feedback (Erez, 1977). Goal setting translates into increased performance only in the context of timely feedback that documents the performer's progress in relation to the goal (Locke, Shaw, Saari, & Latham, 1981). Feedback, or knowledge of results, allows people to keep track of any progress toward their goal that may occur. In other words, a performer needs both a goal *and* feedback to maximize performance (Bandura & Cervone, 1983; Becker, 1978; Erez, 1977; Strang, Lawrence, & Fowler, 1978; Tubbs, 1986).

Without feedback, performance can be emotionally unimportant and uninvolved. A runner can have a goal to run a mile in six minutes, a dieter can have a goal to lose 10 pounds, and a student can have a goal of mastering a subject matter. But if the runner, dieter, and student never gain access to a stopwatch, scale, or examination, respectively, then all the running, dieting, and studying have no way for informing the performer of his or her progress toward goal attainment. The performer wonders, "Did I accomplish my goal or not?"

But feedback is just information. Just as the goal needs feedback to diagnose progress, the reverse is also true that feedback needs a goal (a standard of performance). It is only within the context of a goal that one can utilize feedback information to judge one's performance as poor (below goal), okay (at goal), or excellent (above goal).

The combination of goals with feedback produces an emotionally meaningful mixture: Goal attainment breeds emotional satisfaction, while goal failure breeds emotional dissatisfaction (Bandura, 1991).

Both satisfaction and dissatisfaction have constructive motivational properties. Felt satisfaction contributes favorably to the discrepancy-creating process. When feedback shows the individual that he or she is performing at or above goal level, the individual feels satisfied and competent, competent enough perhaps to create a higher, more difficult goal (the discrepancy-creation process; Wood, Bandura, & Bailey, 1990). Felt dissatisfaction contributes favorably to the discrepancy-reducing process (Carver & Scheier, 1998; Matsui, Okada, & Inoshita, 1983). When performance feedback shows the individual that he or she is performing below goal level, the individual feels dissatisfied and becomes keenly aware of the goal–performance discrepancy, enough perhaps to marshal greater effort toward eliminating the goal–performance incongruity (the discrepancy-reduction process; Bandura & Cervone, 1983, 1986). Feedback therefore provides the emotional punch that continually bathes the goal-setting process within emotional experiences of felt satisfaction and felt dissatisfaction.

The core motivational elements of the goal-setting process appear in summary form in Figure 8.3. The left-hand side of the figure explains why goals enhance performance—namely, because people with goals work harder, longer, smarter, and with more focus (i.e., increased effort, persistence, strategic planning, and attention). The right-hand side explains the motivational process that arises out of feedback in removing goal–performance discrepancies (i.e., discrepancy reduction, new discrepancy creation).

Criticisms

Goal setting has its advantages, but it also has its cautions and pitfalls (Locke & Latham, 1984). A first caution associated with goal setting is that it works best when tasks are relatively uninteresting and require only a straightforward procedure (Wood, Mento, & Locke, 1987), as shown with tasks such as adding numbers (Bandura & Schunk, 1981), typing (Latham & Yukl, 1976), proofreading (Huber, 1985), assembling nuts and bolts (Mossholder, 1980), and sit-ups (Weinberg, Bruya, & Jackson, 1985). Goal setting aids performance on uninteresting, straightforward tasks by generating motivation that the task itself cannot generate (because it is so boring on its own). For tasks that are inherently interesting and require creativity or problem-solving, goal setting does not enhance performance (Bandura & Wood, 1989; Earley, Connolly, & Ekegren, 1989; Kanfer & Ackerman, 1989; McGraw, 1978), because inherently interesting tasks generate effort, persistence, attention, and strategic planning on their own. If the task is interesting enough, you do not really need to set a goal to get yourself going.

A second caution associated with goal setting is goal conflict. People rarely pursue only one goal at a time and instead pursue goals that sometimes conflict with other goals (Baumeister & Heatherton, 1996). The goal-setting process basically says “pay attention here, not there” and “there” might involve an important other goal. For instance, one goal to travel in Asia during the summer will likely conflict another goal to save money. In the same spirit, goal pursuit can lead to goal overload and stress (Csikszentmihalyi, 1990; Lazarus, 1991a). Too many goals, especially conflicting goals, just ask for an overwhelming level of effort, persistence, attention, and strategic planning. One goal at a time seems to work best.

A key pitfall in the applied practice of setting goals for others is that goals are too often administered in ways that are controlling, pressure-inducing, and intrusive and thus can undermine creativity and intrinsic motivation by interfering with one's autonomy and cognitive flexibility (Amabile, 1998; Mossholder, 1980).

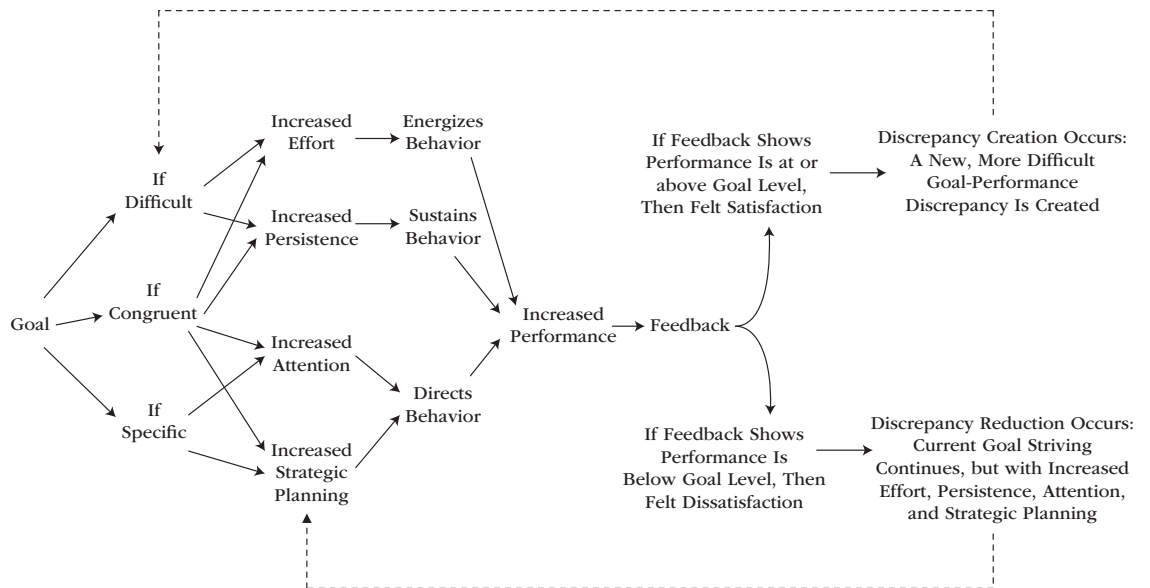


Figure 8.3 Summary of the Goal-Setting Process

Long-Term Goal Setting

A student who wants to become a teacher and an athlete who wants to win an Olympic event exemplify individuals involved in long-term goal setting. To accomplish a distant goal, the performer first has to attain several requisite short-term goals. Would-be doctors, for instance, first have to make a high GPA as undergraduates, get accepted into a medical school, raise or borrow a great deal of money, move to a different city, graduate from medical school, complete an internship, join a hospital or partnership, and so forth, all before they can begin their careers as doctors. Thus, goals can be short term or long term or a series of short-term goals linked together into one long-term goal. No significant difference in performance emerges among performers with short-term, long-term, or a mixture of short- and long-term goals (Hall & Byrne, 1988; Weinberg, Bruya, & Jackson, 1985; Weinberg, Bruya, Longino, & Jackson, 1988), although all outperform people with no goals.

Instead of affecting performance *per se*, goal proximity affects persistence and intrinsic motivation. As for persistence, many would-be teachers, Olympians, and doctors eventually forfeit their long-term goals because of a lack of positive reinforcements along the way. During all those years of studying and practicing, the long-term goal of actually being a teacher, Olympian, or doctor never materializes. At 10, the goal striver is not a teacher. At 15, she is still not a teacher. At 20, she is still not a teacher, despite a great deal of goal-striving effort, persistence, attention, and strategic planning. Because the long-term goal striver receives insufficient opportunities for performance feedback and positive reinforcement, his or her persistence would benefit from setting a series of short-term goals that chain together eventually to end in the long-term target goal. Short-term goals provide repeated commitment-boosting opportunities for reinforcement following goal attainment that long-term goals cannot provide (Latham, Mitchell, & Dossett, 1978). Short-term goals also provide repeated opportunities for feedback that allow the performer to evaluate performance as being at, above, or below the goal. An athlete trying for a long-term goal such as winning the state championship receives little day-to-day feedback as compared to the athlete trying for a short-term goal such as winning a contest each week.

Several researchers assessed the impact that short- and long-term goals have on intrinsic motivation (Bandura & Schunk, 1981; Harackiewicz & Manderlink, 1984; Mossholder, 1980; Vallerand, Deci, & Ryan, 1985). On uninteresting tasks, short-term goals create opportunities for positive feedback, the experience of making progress, and a means of nurturing a sense of competence, all of which enhance intrinsic motivation (Vallerand, Deci, & Ryan, 1985). On interesting tasks, however, only long-term goals facilitate intrinsic motivation. For the highly interested performer, short-term goals are too often experienced as superfluous, intrusive, and controlling. As said before, if the task is interesting enough, you do not really need a short-term goal to get you going, and if someone pushes a short-term goal on you, then it could feel more intrusive than helpful (Mossholder, 1980). As to long-term goals, people generally prefer to pursue them in their own way and at their own pace, and this sense of autonomy and agency explains why long-term goals can increase intrinsic motivation (Manderlink & Harackiewicz, 1984; Vallerand, Deci, & Ryan, 1985).

From Where Do Goals Come?

Sometimes, people assign us a goal to pursue. At work, the boss assigns a work goal; at school, the teacher assigns an academic goal; in the gym, the trainer assigns an exercise goal; and at the dentist's office, the dentist assigns an oral hygiene goal. Goal-setting theory was in fact developed in the context of the world of work to help employers (managers) motivate their employees through the assignment of performance-enhancing goals (Locke & Latham, 1984, 1990). These sorts of goals can be understood as other-assigned goals.

Most of the time, however, we generate our own goals. We set goals to give our daily behavior and even our life a sense of purpose. Some self-generated goals originate in our thinking. For

instance, a strong sense of self-efficacy prompts people to set goals to strive for (e.g., “I am very confident in my singing skill, so I am going to try to win a talent show”). Valuing also prompts goal setting (e.g., “I value mother earth, so I am going to recycle every day”). Personality traits can lead to self-set goals. For instance, extraverts readily adopt goals that revolve around enjoying social attention (e.g., “become an actor”), while people high in conscientiousness often self-generate self-improvement and personal mastery goals. Biological and psychological needs generate goals. Hunger prompts the adoption of a goal to visit a restaurant, just as a relatedness or affiliation motive prompts the goal to begin a caring relationship. Goals also arise out of exposure to attractive role models. A child may watch the financial and social incentives given to a professional athlete and be inspired to adopt the personal goal to become a professional athlete, just as an adolescent might observe a highly skilled role model and then adopt a goal to be able to do what the skilled role model can do.

So, overall, our future-focused desired end states (i.e., goals) sometimes originate out of an other-assigned goal, but more often they originate out of our own way of thinking, a personality trait, a biological need, a psychological need, or an attractive role model.

GOAL STRIVING

Goal setting can serve as a motivational intervention strategy to help people accomplish the sorts of things they wish to accomplish (see Box 8). The self-help books in the mega bookstores agree, because they advise readers to set goals and to focus their full attention on these goals. If you want to make better grades, lose 10 pounds, save a ton of money, or be successful in love and work, then you must visualize the goal you want. Think it—be it, they say. Focus on it, visualize it, see the new you with goal in hand.

Unfortunately, motivational processes are not that simple, because goal setting needs a great deal of goal striving—effort, persistence, focused attention, and strategic planning—to translate into increased performance and goal attainment. The gap between adopting a goal and actually attaining it can be wide.

Mental Simulations

Consider a series of studies designed explicitly to test the advice to “visualize success” (Taylor, Pham, Rivkin, & Armor, 1998). In these studies, participants either (1) focused on the goal they wished to attain, (2) focused on how to attain the goal, or (3) did not focus on anything in particular (a control group). Focusing on the goal actually *interfered* with goal attainment! Visualizing fantasies of success (i.e., wishful thinking) backfired (Oettingen, 1996). Focusing on how to accomplish the goal, however, did facilitate goal attainment. Instead of focusing on outcomes (i.e., on goal content), mental simulations need to focus on planning and problem-solving (i.e., on goal striving). To illustrate this point, imagine hearing one of the two following instructions (Pham & Taylor, 1999):

Outcome Simulation (Focus on the Goal)

Visualize yourself getting a high grade on your psychology midterm ... imagine how you would feel. It is very important that you see yourself getting a high grade on the psychology midterm and have that picture in your mind.

Process Simulation (Focus on Implementation Intentions)

Visualize yourself studying for the midterm in such a way that would lead you to obtain a high grade on the midterm. As of today and for the remaining days before the midterm, imagine how you would study to get a high grade on your psychology midterm. It is very important that you see yourself actually studying and have that picture in your mind.

BOX 8 *Goal Setting and Goal Striving*

Question: Why is this information important?

Answer: To translate the goals you value into effective action.

What would you like to accomplish? Would you like to increase the number of friends you have? Increase your GPA? Write a term paper? One means for attaining an objective is goal setting. Effective goal setting entails following:

1. Identify the objective to be accomplished.
2. Define goal difficulty.
3. Clarify goal specificity.
4. Ask why you are pursuing this goal (i.e., evaluate self-goal concordance).
5. Specify how and when performance will be measured.

For instance, consider the goal of getting in shape (to continue the example introduced in the beginning of the chapter). In numerical terms, getting in shape could be represented by taking 12,000 steps per day. Such a goal represents both a difficult and specific course of action. But why adopt a “get in shape” goal? Does such a goal reflect your authentic self, or is this goal simply a socially imposed “ought to” goal? Checking and recording in a logbook the actual number of steps taken each day before going to sleep specifies how and when performance will be measured.

Identifying and setting the goal gets you halfway home. The other half is to generate goal-attainment strategies that will enable you to translate goal setting into goal attainment:

6. Identify goal-attainment strategies.
7. Create “if-then” implementation intentions.
8. Make performance feedback available.

Identifying goal-attainment strategies means deciding what to do. This means deciding on a strategic plan of action that has a good chance of producing goal attainment. Implementation intentions are also needed to get goal striving started, to stay on course, and to resume goal striving after interruptions. You might decide, for instance, to walk around the neighborhood from 8:00 until 8:30 each morning. While doing so, you would be well advised to keep the pedometer and smartphone with you so to make performance feedback continuously available to know if you are performing at, above, or below goal level.

Given this goal-setting and goal-striving process, you have now articulated both the goal and the plan of when, where, and how all this goal striving will take place. This is just one example, but you might be surprised by how readily these step-by-step procedures generalize to other objectives in life. For an example of a goal-setting program in action that shows both the “how-to” of the intervention as well as positive results, see Morisano et al. (2010).

The first set of instructions basically asked students to rehearse the joy of success, while the second basically asked students to engage in planning and problem-solving. Compared to a no-simulation control group, students in the outcome mental simulation condition actually studied less and made poorer scores on the test. Recall that what is motivating and effort-generating is not a focus on the ideal state but, instead, is a focus on the discrepancy between the present state and the ideal state. Students in the process mental simulation condition studied more and made better test scores. To facilitate action, people need to mentally simulate the goal-striving process—the means by which they will accomplish the end they seek.

Implementation Intentions

When people fail to realize the goals they set for themselves, part of the problem can be explained by how they set the goal (i.e., Is the goal difficult? specific? self-concordant? Is it paired with feedback?). The other part of the problem, however, is simply that people fail to act on the goals they set for themselves (Orbell & Sheeran, 1998). As the old saying goes, “A goal without a plan is just a dream.”

An implementation intention is an “if-then” plan that specifies in advance the goal-striving process. Formulating an implementation intention involves deciding *in advance* of one’s goal striving the “when, where, and how” (Gollwitzer, 1999; Gollwitzer & Oettingen, 2011; Gollwitzer & Sheeran, 2006). Admittedly, the term *implementation intentions* is a bit awkward, but it makes the distinction between two types of intentions—namely, a goal intention (setting a goal) and an implementation intention (striving to accomplish it). A goal intention specifies what one wants to achieve, while an implementation intention specifies when, where, and how one will achieve that goal.

Imagine that you have set a goal, such as making a 4.0 GPA, reading this book, or saving \$100 this month. Will these goals come to fruition? Probably not, at least if you fail to develop specific action plans. People in general often fail to specify when they will initiate their goal-directed action, where their goal-directed action will take place, and how they will accomplish their goal, especially in the face of obstacles, distractions, and interruptions. In contrast, when people with a goal take the time to specify implementation intentions, they strongly increase their chance of goal attainment (Aarts, Dijksterhuis, & Midden, 1999; Brandstatter, Lengfelder, & Gollwitzer, 2001; Gollwitzer & Schaal, 1998; Oettingen, Honig, & Gollwitzer, 2000).

To form an implementation intention, a person needs to do two things. First, the person needs to identify a response that will promote goal attainment. For instance, for the student who wants to make an A in a class, what response might cause that A to materialize (e.g., studying, forming a study group)? Second, the person needs to anticipate a suitable occasion to initiate that response. For instance, for the student who believes that studying will cause the A to materialize, then a time for studying needs to be decided upon in advance (e.g., for the two hours after class, I will go to the coffee shop and review my class notes and weekly readings). For the person who wants to exercise more, he might identify taking the stairs to the seventh floor as a response that will promote goal attainment. If so, each time he enters the building and encounters that flight of stairs, he encounters a suitable occasion to initiate exercise. In both cases, a strong mental link is formed between the critical situation (after class, entering the building) and the goal-direction action (e.g., studying for two hours, walking up the flight of stairs).

Implementations are simple action plans, but there is some skill to be applied when creating them. To be effective, the person needs to anticipate a situation in which it would be appropriate to initiate goal-striving action. The implementation needs to be tailored to a valued course of action. And, the implementation intention needs to be stated either as an opportunity to act or as a way of overcoming an obstacle (Adriaanse, De Ridder, & De Wit, 2009; Gollwitzer & Sheeran, 2006). Thus, for the would-be exerciser who enters the same building every day, he or she needs to anticipate the daily decision point of “walk up the stairs” versus “take the elevator.” If walking was valued as a type of exercise, then “walking up the stairs” would make for an attractive course of action. An opportunity to act would be, “If I see the stairs, then I will walk up them,” while a way of overcoming a key obstacle would be, “If I see the elevator doors, then I will say ‘no’ and turn around.”

Implementation intentions take the form of “if-then” statements. The “if” part concerns encountering the critical situational cue, while the “then” part concerns the goal-striving response. It is important to form implementation intentions in advance of encountering the situational cue so that a strong associative link is formed between the situational cue and the goal-striving response. The critical activity is to form and commit to the situational cue—behavioral response link. With such a strong link formed in advance, goal-striving behavior can occur instantly and automatically—that is, without deliberation or decision making.

Many people pause and deliberate on whether they should study, exercise, or practice, and hence consider if they feel like studying, if exercising might be more convenient later in the day, or whether it would be better to practice after the weather improves. Too often, the result is that goal striving never gets done. Implementation intentions, in contrast, make goal striving habitual behavior, because one acts immediately and automatically as soon as the key situational cue is encountered, as in “see the stairs, walk the stairs” and “come April 1st, complete tax form.” If-then planners act quickly and do not need to consciously intend to act when the critical moment arrives. To get a sense of the if-then character of implementation intentions and to begin to appreciate how people solve fundamental self-regulation problems that interfere with goal striving, Table 8.1 provides some examples of implementation intentions to solve three ever-present self-regulation problems.

The study of implementation intentions is the study of how goals, once set, are effectively acted on (Gollwitzer & Moskowitz, 1996). Implementation intentions play the important role they do in goal achievement because a goal striver needs solutions to the following three inevitable

Table 8.1 Examples of Implementation Intentions to Solve Three Self-Regulation Problems Inherent in Goal Striving**Getting Started**

If it is Sunday afternoon, then I will go to the gym.

If it is April 1, then I will complete my tax form.

Staying on Track (Avoiding Temptations, Avoiding Distractions)

If I see that the television is on, then I will ignore it.

If new e-mails pop up in my inbox, then I will ignore them.

Resuming, after an Interruption

After someone drops by to chat, then I will immediately get back to work.

After I end a phone conversation, then the first thing I will do is get back to my term paper.

self-regulation problems that work against investing one's effort, persistence, focus, and strategic planning:

- Getting started
- Staying on track
- Resuming

Goal striving has to get started and, once begun, needs to continue until goal attainment. Time, however, has a way of opening the door to forgetting to take actions and to any number of temptations, distractions, difficulties, and interruptions. The act of setting implementation intentions is the effort to close the door on these volitional problems. In effect, implementation intentions buffer performers against falling prey to volitional problems.

In the first experiment on implementation intentions, experimenters asked college students going home for the Christmas holidays how they planned to spend their time and what they wanted to get done (e.g., write a paper, read a book, solve a family conflict; Gollwitzer & Brandstatter, 1997). The experimenters asked half of the students to form explicit implementation intentions for their goal by asking them to pick a specific time and a specific place in which to carry out the goal-directed action (e.g., "On the morning of December 21, I will go to the public library and write the first draft of my 10-page term paper"). The other half of the students were not asked to specify a time and a place for their goal-directed behavior but, instead, were simply encouraged to do their best to accomplish their goal. When students returned, a majority of students in the implementation intentions group had indeed attained their goal, while only a minority of students in the control group had attained their goal. Plus, the more difficult the goal was to accomplish, the more important the forming of implementation intentions was to these completion rates.

Getting Started

Some people exercise every day at a certain time in the afternoon; some people read steadily and persistently when in the library; and some people always stop completely at stop signs. Frequent and consistent pairings of particular situations with particular behaviors lead to strong links between the situation and the behavior. When goal striving is not part of one's routine, however, it is easy to forget to take action. People with good intentions often forget to take their vitamins, forget to send thank-you notes, and forget to work on a project, as in "I had all day to read the chapter, but I just

never sat down and read it.” In contrast, implementation intentions set up environment–behavior contingencies that lead to automatic, environmentally cued behavior. When the situational cue presents itself (e.g., 7:00 in the morning), the person has a ready-to-go reminder to take her daily vitamin.

Implementation intentions help people get started in their goal striving not only by reminding them to take action but also by making sure that they do not miss a good opportunity to act. The person who wants to eat healthy can form implementations such as, “When I walk in the grocery store, then I will walk first to the fruit section” and “When the waiter comes to take my order, then I will ask for a healthy recommendation.” Women who wrote down when and where they would conduct a breast self-examination actually did so 100 percent of the time during the next month, whereas women who simply had the goal of conducting a breast self-examination during the month did so only 53 percent of the time (Orbell, Hodgkins, & Sheeran, 1997). The two groups of women had the same goal, yet attained different results, because one group always got started while the other group only sometimes got started. Sometimes, there exists only a limited window of opportunity to act (e.g., apply for a scholarship). People who set implementation intentions to take action during that window of opportunity do actually act more often than do people who set a goal but not an implementation intention (Dholakia & Bagozzi, 2003).

Implementation intentions further help people get started by helping them overcome a resistance to act. People may have second thoughts or have ambivalent thoughts about eating healthy, climbing the stairs, going to the dentist, or exercising at 7:00 am. The root of the resistance is that short-term benefits (e.g., tasty meal, sleeping in) often win the motivational competition when pitted against long-term benefits (e.g., healthy body). Resistance is a motivational problem (e.g., “Do I really want to do this?”), so implementations help solve this problem by *getting ahead of the short-term benefit versus long-term benefit dilemma* to make acting for long-term benefits automatic (e.g., a habit: “There is no question about it—see the stairs, climb the stairs”).

Staying on Track

Once started in the pursuit of a goal, people often face circumstances that were more difficult than they expected. They encounter distractions and demands on their time, and they get interrupted and face the prospect of having to start all over again. But implementation intentions, once set, shield goal striving from potential derailment (Goschke & Dreisbach, 2008; Shah, Friedman, & Kruglanski, 2002; Veling & van Knippenberg, 2006; Wieber et al., 2011).

People often start an exercise program, start writing a paper, and start the effort to learn a foreign language but, in doing so, difficulties, distractions, alternative demands, and interruptions inevitably surface to compete with the goal striving, as in “I started to read the chapter, but then the phone rang and I never did get back to the book.” The goal striver needs a shield against these temptations, especially when they are exciting or attractive alternatives (Gollwitzer & Schaal, 1998). Implementation intentions facilitate persistence by helping people anticipate a forthcoming difficulty, temptation, or distraction and therefore form an intention of what they will do once it comes their way (Achtziger, Gollwitzer, & Sheeran, 2008). Dieters and athletes often form implementation intentions to prevent their goal striving from straying off course (Achtziger, Gollwitzer, & Sheeran, 2008).

For a concrete example, consider the case in which elementary-grade students worked on a homework-like task on the computer while distracting and tempting cartoon videos popped up on the screen. Half of the children were prepared in advance with a goal intention, which was “I will ignore distractions,” while the other half were prepared with an implementation intention, which was “If there is a distraction, then I will ignore it” (Wieber et al., 2011, p. 42). Children armed only with a goal intention were frequently derailed from their task and gave into the tempting distractions, while children armed with the implementation intention were more likely to shield their attention and behavior from the distraction to spend more time on task.

In a similar study, college students worked on attention-demanding mathematical problems while distracting video clips of television commercials popped up. Just as was the case with the children, college students with an implementation intention (i.e., “If a commercial comes on, then I will ignore it.”) prior to solving the mathematics problems solved more problems than did students who did not form the distraction-inhibiting intention (Schaal & Gollwitzer, 1999). Without an implementation intention, students were left vulnerable to distraction. Overall, implementation intentions create a type of close-mindedness that narrows one’s field of attention to include goal-directed action but to exclude distractions.

Resuming

Implementation intentions also help people finish up their uncompleted goals. Workers who began to write a letter of correspondence were interrupted, and half were then asked to form an implementation intention while the others were not. When the two groups of workers returned to their desks, those with an intention to finish the letters upon their return (implementation intention) completed their unfinished business to a greater degree than were those who were similarly interrupted but who did not harbor an implementation intention to cope with the interruption.

GOAL DISENGAGEMENT

An essential part of effective goal pursuit is knowing when to stop—knowing when to give up on one goal and switch over to an alternative goal. While the culture proclaims that “winners never quit and quitters never win,” such a proclamation applies only to potentially attainable goals. Some goals are unattainable, or become unattainable because of a change in circumstances or personal resources, because the goal conflicts with another goal, or because the person simply has too many goals to pursue. For unattainable goals, we need to add the concept of goal disengagement to our analysis of goal setting and goal striving.

Goal disengagement is the reduction of effort and goal commitment (Wrosch, Scheier, Carver, & Schulz, 2003). Reduction of effort means trying less hard or stopping goal-striving effort altogether; reduction of commitment means reducing the importance that is attached to the goal. Given this definition, it becomes apparent that goal disengagement is essentially the opposite of goal adoption or goal setting.

Life is short, and we all face very real limits in terms of the amount of time and effort we have available to pursue a particular goal. We also have only a limited amount of resources available to us that can be invested in effort, persistence, attention, and strategic planning. For instance, a potential parent can become too old to have a child, an accident or an illness can leave the athlete unable to practice her sport, a person might suffer a financial hardship and simply not have the money available for the goal pursuit, or a student who has a goal to attend Northwestern University may receive a rejection letter in the mail. What makes the concept of goal disengagement important is that ill-advised goal striving has the undesirable consequence of leaving the goal striver highly vulnerable to psychological distress (Wrosch, Scheier, Carver, & Schulz, 2003).

As shown in Figure 8.4, people generally have three options once they realize that a sought-after goal is unattainable (e.g., after the student receives the rejection letter from the university). In path 1, the person maintains both effort and commitment to the goal. Because the goal is unattainable, the person is therefore highly vulnerable to failure feedback and psychological distress (e.g., discouragement, despair, depression). In path 2, the person gives up effort but maintains the goal commitment. Again, because the goal is unattainable, the person is highly vulnerable to disillusionment and psychological distress. In path 3, the person violates the cultural axiom that “winners never quit and

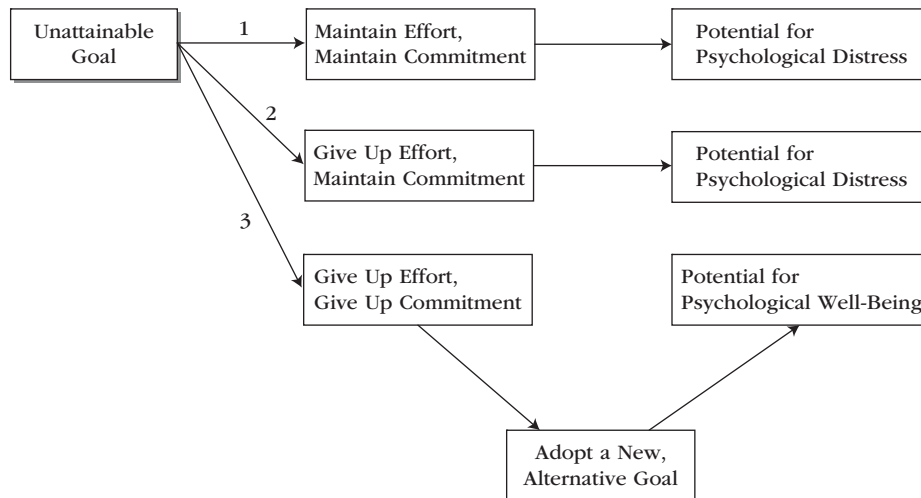


Figure 8.4 Potential for Psychological Distress versus Well-Being from Different Patterns of Goal Disengagement

quitters never win” and gives up both effort and commitment. Somewhat counterintuitively, it is this path that opens up the possibility for psychological well-being.

For goal disengagement to transcend into future psychological well-being, the person needs to follow the disengagement of one goal with the adoption of a new, alternative goal (Wrosch et al., 2003). To quote Alexander Bell: “When one door closes, another often opens up.” Interestingly, the full Alexander Bell quote is actually, “When one door closes, another door opens; but we so often look so long and regretfully upon the closed door, that we do not see the ones which open for us.”

Disengagement becomes an adaptive course of action when it leads the person to take up a new, alternative, purpose-endowing goal or when it enhances the extent of effort, persistence, attention, and strategic planning invested in one’s remaining goals, because disengagement frees up resources for the pursuit of one’s remaining goals. If there is not an alternative goal, however, then Wrosch et al. (2003) suggest that this is the worst of all situations, as disengagement brings only a sense of emptiness.

One interesting illustration of the successful versus unsuccessful goal disengagement can be seen in the retirement of elite athletes (Holding et al., 2017). These researchers followed the career retirements of 158 elite Canadian athletes (81% were Olympic athletes, average age was 30), asking why they retired and assessing their post-retirement well-being. When the athletic career ended (a “door closed”) for a reason such as injury, discrimination, difficulties with a coach, and so forth, then athletes’ well-being in retirement was poor. But when athletes retired for reasons such as “wanted to pursue an alternative career” or “wanted to pursue education,” then the “other door opening” allowed them to decrease their effort and commitment to their athletic goals and career. One indicator of such disengagement (less effort, less commitment) was sending out fewer tweets, while another indicator was fewer “If only ...” ruminations (as well as less practice and a decreased identity that revolved around excelling at the sport). Overall, the athletes who successfully negotiated the goal/career disengagement process according to “path 3” in Figure 8.4 were the ones who experienced well-being gains (while this was not at all true for the athletes who unsuccessfully negotiated the goal disengagement process by trying to follow either “path 1” or “path 2” in Figure 8.4).

SUMMARY

The cognitive perspective on motivation focuses on mental processes as causal determinants to action. It concerns itself with the cognition → action sequence. This chapter discusses the motivational significance of three cognitive springs to action: plans, goals, and implementation intentions.

People are routinely aware of both the present state of their behavior and what their behavior might ideally be. The cognitive motivational state of discrepancy arises whenever the person perceives a mismatch between one's present state and one's ideal state. To reduce or remove that discrepancy, people generate a plan, which is essentially motivated action to remove the discrepancy. Two types of discrepancies exist: discrepancy reduction and discrepancy creation. Discrepancy reduction corresponds to plan-based corrective motivation, and it is a reactive, deficiency-overcoming motivation that revolves around a negative feedback system. Discrepancy creation corresponds to goal-setting motivation, and it is a proactive, growth-pursuing motivation that revolves around a positive feedback or "feed-forward" system. The rate at which people are able to reduce these discrepancies matters, because positive emotion signals that the person is making more progress than what is needed while negative emotion signals that the person is making less progress than what is needed to remove the discrepancy.

A goal is whatever an individual is striving to accomplish but, more specifically, it is a future-focused cognitive representation of a desired end state that guides behavior. Goals that are difficult (hard to accomplish), specific (communicates precisely what one is to do), and congruent with the self (sense of personal ownership over the goal) generally improve performance, and they do so by producing the motivational effects of energizing, directing, and sustaining behavior. With feedback, the person who sets a goal gains the means to evaluate his or her performance as being at, above, or below the level of the goal standard. Performing below goal level generates dissatisfaction that underlies a greater investment of effort, persistence, attention, and strategic planning, while performing above goal level generates satisfaction that underlies a willingness to set more difficult goals in the future. Goals can be short-term, long-term, or a series of short-term goals that chain together into one long-term target goal. Short-term goals frequently generate opportunities for performance feedback, while long-term goals are associated with higher levels of intrinsic motivation.

An implementation intention is an "if-then" plan that specifies the goal-striving process in advance. The "if" part concerns encountering a critical situational cue, while the "then" part concerns specifying the goal-striving response. To form an implementation intention, a person needs to do two things. First, the person needs to identify a response that will lead to goal attainment, such as "To make an A, I will study for two hours a day." Second, the person needs to anticipate a suitable occasion to initiate that response (the "when, where, and how" goal striving), such as "At 5:00 pm each afternoon, I will study for two hours." People who set implementation intentions in advance of their goal-directed action are significantly more likely to attain or complete their goals than are people who do not set implementation intentions. The three primary reasons why implementation intentions have positive effects on goal attainment are because they help performers overcome the volitional problems of getting started, staying on track, and resuming goal striving following an interruption. Without an implementation intention, people are left vulnerable to distractions, temptations, and interruptions. Overall, implementation intentions create a type of close-mindedness that narrows one's field of attention to include goal-directed action but to exclude distractions.

An essential part of effective goal pursuit is knowing when to stop. Goal disengagement is the reduction of effort and commitment in the face of an unattainable goal. What makes the concept of goal disengagement important is that ill-advised goal striving has the undesirable consequence of leaving the person vulnerable to psychological distress. Goal disengagement becomes an adaptive course of action when it opens up a new opportunity for the person to adopt an alternative, potentially attainable, and purpose-endowing goal.

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Mindsets

MINDSET

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SUMMARY

READINGS FOR FURTHER STUDY

Imagine that you and your friend drive into the 24-hour mega-drugstore on your way to a New Year's Eve party. You need to get a gift for the host of the party. As you drive into the parking lot, cars are everywhere and empty spaces are nowhere. Luckily, a car near the entrance pulls out of a space, and you just as quickly drive in. You unbuckle, open the door, and are ready to go inside, but your friend has a different reaction. She is not happy with your choice of parking spaces. Temperatures are freezing, and the walk will be long. She wants to drive around and look vigilantly for the perfect spot. For you, the job is done, and it is time to get on with what you came for. For her—not so much.

Inside you stand before a wall of wines, champagnes, and a hundred different alcoholic beverages. You grab a good bottle of wine—it is attractive, has a recognizable brand name, and sells for an okay price. With bottle in hand, you turn to your friend. Alas, you again see the cautious let's-think-it-over face. She is looking for the right bottle of wine. Deliberately, she works her way through the options one by one. She does not want to make a mistake and pick the wrong wine, and she points out a couple of shortcomings with your choice. Finally, a wine is selected.

You think it is time to check out, but she then asks what the decorative gift bag should be and the whole “pros versus cons” process begins anew. Finally, the two of you make it to the checkout counter, although there is a debate about which line is the right line.

What does this shopping trip with a friend illustrate (based on Kruglanski et al., 2000)? The scenario illustrates that even when two people have the same goal, they can have different strategies for attaining that goal. One approach might be to “just do it” (Kruglanski et al., 2000)—to get on with the task of advancing from a state of not having something to a state of having it (i.e., a parking space, a bottle of wine, a gift bag, a place in line). If you gain what you need, then things are good. Another approach might be to “do the right thing” (Kruglanski et al., 2000)—to be cautious, to take stock of things, and to make sure that you do not fail to fulfill an important responsibility (i.e., the right parking space, the right bottle of wine, the right gift bag, the right line). If you can prevent making a mistake, then things are good. The scenario shows that people with the same goal can nevertheless possess different mindsets that yield different patterns of goal striving.

MINDSET

A mindset is a cognitive framework to guide one's attention, information processing, decision making, and thinking about the meaning of effort, success, failure, and one's own personal qualities. Once adopted, a mindset functions as a cognitive motivational system that produces important downstream consequences. That is, the person with one mindset looks at a motivational episode in a fundamentally different way than does the person with a different mindset, and these different ways of thinking yield differences in lifestyle and ways of coping. This chapter will describe and explain the motivational significance of three mindsets, as introduced in Table 9.1. Table 9.1 also includes cognitive dissonance, a fourth related motivational phenomenon.

Each mindset listed in Table 9.1 provides a pair of contrasting motivational systems that exist simultaneously within each individual. The motivational systems coexist, but people tend toward one motivational system rather than the other. This tendency toward one motivational system or the other occurs sometimes as a result of chronic personality differences and other times occurs as a result of situation-specific circumstances.

MINDSET 1: DELIBERATIVE–IMPLEMENTAL

As emphasized in the previous chapter, one can distinguish between goal setting and goal striving (following Lewin, Dembo, Festinger, & Sears, 1944). This distinction draws attention to a related distinction between motivation and volition (Kuhl, 1984, 1987).

Motivation concerns the energization and initial direction of behavior, and it involves all the predecisional processes that energize and direct action (e.g., “What should I do tonight? There are

Table 9.1 Three Mindsets and Their Associated Motivational Systems**1. DELIBERATIVE–IMPLEMENTAL**

Two sequential ways of thinking to differentiate the patterns of thought that occur during goal-setting versus goal striving.

Deliberative: An open-minded way of thinking to consider the desirability and feasibility of a range of possible goals that one might or might not pursue.

Implemental: A postdecisional closed-minded way of thinking that considers only information related to goal attainment and shields against non-goal-related considerations.

2. PROMOTION–PREVENTION

Two different orientations people adopt during goal striving to distinguish an eager improvement-based regulatory style from a vigilant security-based regulatory style.

Promotion: A focus on advancing the self toward ideals by adopting an eager locomotion behavioral strategy.

Prevention: A focus on preventing the self from not maintaining one's duties and responsibilities by adopting a vigilant behavioral strategy.

3. GROWTH–FIXED

Two contrasting ways of thinking about the nature of one's personal qualities.

Growth: The belief that one's personal qualities are malleable, changeable, and can be developed through effort.

Fixed: The belief that one's personal qualities are fixed, set, and not open to change.

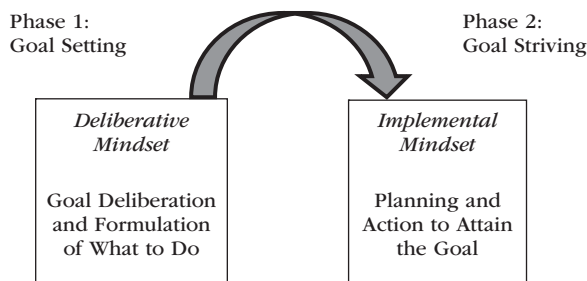
COGNITIVE–DISSONANCE

The near-universal self-view that one is a competent, moral, and reasonable person.

Consistency: Information and behavioral actions that confirm that, yes, one is a competent, moral, and reasonable person.

Dissonance: Information and behavioral actions that suggest that, no, one is actually not a competent, moral, and reasonable person.

so many things to do. Okay, I know what I want. I have decided that I will read the textbook.”). Volition, on the other hand, concerns the ongoing maintenance and persistence of motivated action, because it involves all the post-decisional processes that sustain ongoing action (e.g., “If I am going to read the textbook, then I must ignore all potential distractions—no television, no web surfing, no telephone chatting.”). The two different mindsets—deliberative versus implemental—that underlie goal setting’s “phase 1” flow into goal striving’s “phase 2” are depicted graphically in Figure 9.1.

**Figure 9.1** Different Mindsets to Motivationally Support the Sequential Phases of Goal Setting and Goal Striving

In the study of the deliberative versus implemental mindset, the key distinction is between the initial selection of goals, which involves a great deal of deliberation, and the regulation of the action necessary to bring that chosen goal to fruition, which involves strategic execution and willpower. This distinction can be easily seen in a New Year's resolution as the person first considers the pros and cons of many possible goals (e.g., "start exercising," "stop smoking," or "be nicer to my coworkers") to select and commit to one particular goal; yet, as the calendar turns to February, that chosen goal might not have been realized. Failed New Year resolutions (or any unrealized goal) make it clear that a distinction needs to be made between the deliberative process of setting a goal and the implementation process of actually attaining it. Choosing and setting a goal involves and requires one mindset, while pursuing that goal involves and requires a different mindset.

Deliberative Mindset

People in a deliberative mindset think about what they would like to do—which desire is to be acted on, which goal is to be chosen, which need is to be prioritized, which preference is to be pursued, and which environmental incentive is to be acquired. What the person thinks about (the "mindset") revolves around questions such as how desirable one goal (or desire, need, preference, or incentive) is relative to another. The person asks, "Should I pursue my academic goals tonight, or should I pursue my social-relatedness needs tonight?" The key questions are, "What do I want?" or "What is the most desirable thing for me to do?" In addition to desirability, the person deliberates, considers, and reflects upon how feasible each goal is. The key questions are, "Do I have what it takes to attain goal A, goal B, or goal C?", "How attainable are each of these goals?", and "Is goal A (or B, or C) worth the effort it will take to attain it?" This is a highly open-minded and deliberative process in which many options are considered, and each option is worked through a cost and benefit analysis.

In a deliberative mindset, attention is cast wide (Fujita, Gollwitzer, & Oettingen, 2007). The person seeks out and is willing to entertain information related to all possible goals, desires, and incentives. There is a lot of talking to friends, Web searching, and checking online reviews (e.g., TripAdvisor). Any information about the desirability and feasibility of a possible goal is welcomed. If planning a vacation, a weekend, or an evening, the person is open-minded and willing to listen to all possible options. A deliberative mindset is most appropriate with motivational questions such as, "Who will I date (or marry)? Which college will I attend? What will be my major, and what will be my profession? Which gift should I purchase?" During this open-minded deliberation, the person's thinking is rather objective in the evaluation of the pros and cons of possible alternatives.

Implemental Mindset

Once a goal has been set and committed to, the person generally benefits from making a mindset transition from goal setting to goal striving—from motivation to volition. Alternative goals are no longer considered. Alternative goals are now seen as unwanted distractions—as rival competing goals. Nonchosen goals, desires, needs, preferences, and incentives are now seen as unwelcomed and irrelevant interruptions or temptations that need to be ignored and are now potentially disruptive to and interfering with volition. The thinking and planning transition to questions such as, "Okay, I have decided to date so-and-so, so what do I need to do now?" and "I have selected this particular gift for the birthday party, so what steps do I need to take to get this gift in hand?" The person no longer thinks about the desirability and feasibility of rival goals but, instead, concentrates on getting started and persisting until goal attainment.

In an implemental mindset, the person is closed-minded and attention is focused narrowly to concentrate only on information that is related to goal attainment (Gollwitzer & Bayer, 1999). The implemental mindset shields one's thinking against non-goal-related information and considerations.

More deliberative thinking will only postpone goal striving, not facilitate it. The thinking is as follows: “This has already been decided. While it was once very constructive to consider my options, it is now counterproductive to do so. What I need to do now is focus and shield myself against distractions.” During this closed-minded implementation period, the person’s thinking is optimistically biased in the evaluation of the desirability and feasibility of the chosen goal (e.g., my chosen romantic relationship will work out well; Puca, 2001). With an implementation mindset, people raise their forecasted self-efficacy and personal control beliefs about eventual goal attainment (Armor & Taylor, 2003).

Downstream Consequences of the Deliberative and Implemental Mindsets

The important point to emphasize in making a distinction between the deliberative versus implemental mindset is the following: The implemental mindset is more conducive to goal striving than is the deliberative mindset. When people are in an implemental rather than a deliberative mindset, they persist longer (Brandstadter & Frank, 2002) and perform better (Armor & Taylor, 2003). This is so because these two mindsets produce different downstream consequences.

To study the downstream consequences of the deliberative versus implemental mindsets, researchers experimentally induced one mindset or the other in participants (see Gollwitzer & Kinney, 1989). To induce a deliberative mindset, participants first identify a goal or personal striving that they are currently considering but have not yet decided on or committed to (e.g., “I’m considering switching my major, but I haven’t yet decided whether to change majors or to just stay with this one.”). Participants then make a “pros and cons” list of the potential benefits and costs of each possible goal or striving. They also are asked to estimate the probability that these benefits and costs will actually materialize if each goal is or is not pursued. To induce an implemental mindset, participants first identify a goal or striving that they plan to accomplish during a specific period of time (e.g., “By the end of the semester, I will have written my term paper, revised it, and submitted it for a grade.”). Participants then make a list of five steps that need to be taken to accomplish that goal. To be specific, participants are asked to write down the specific time and place associated with each of the five goal-attainment strategies.

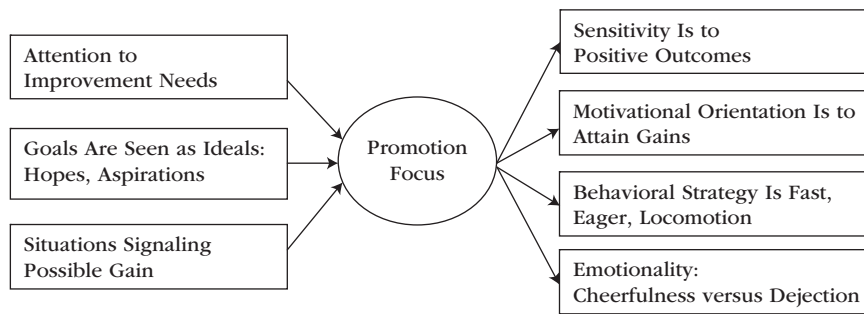
After one or the other mindset has been induced, participants’ thoughts are monitored in a second phase of the study. In a deliberative mindset, people show a “cognitive tuning” toward information expressing the pros and cons (benefits and costs) of one goal vis-à-vis rival goals; in an implementation mindset, people show a “cognitive tuning” toward information related to goal attainment and a step-by-step way of thinking and problem-solving (Gollwitzer, Heckhausen, & Steller, 1990). During their implementation mindset, people show a marked drop in thoughts related to the desirability of the chosen goal, and they no longer ponder questions such as “Should I do it, or should I do something else?” (Puca & Schmalt, 2001). While deliberative thinking is valuable and productive for goal setting, it is implemental thinking that is relatively more productive for goal striving.

MINDSET 2: PROMOTION-PREVENTION

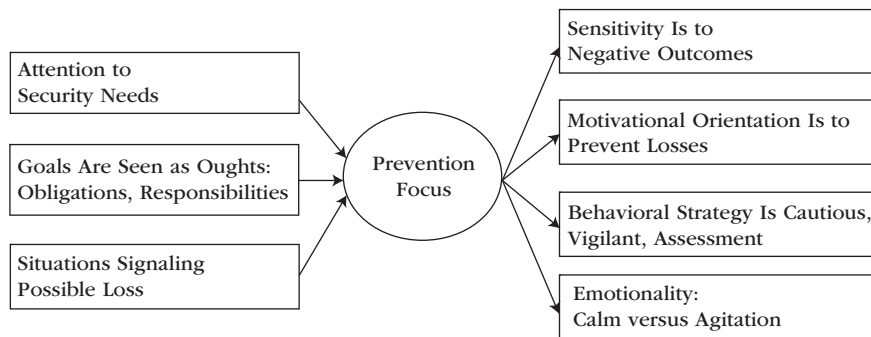
Regulatory focus theory proposes that people strive for their goals by using two separate and independent motivational orientations (i.e., mindsets): promotion and prevention (Higgins, 1997, 1998). The first motivation system is an improvement-based regulatory style, while the second motivational system is security-based regulatory style. These two mindsets were the basis of the chapter’s opening vignette (the trip to the mega-drugstore).

A promotion focus involves sensitivity to positive outcomes. The striving is to attain what one does not yet have. One strives to approach desired and ideal end states.

(a) Promotion Mindset



(b) Prevention Mindset

**Figure 9.2** Antecedents and Consequences of the Promotion (a) and Prevention (b) Mindsets

A prevention focus involves sensitivity to negative outcomes. The striving is to maintain and not lose what one already has. One strives to maintain a sense of duty, obligation, and responsibility.

A graphical representation of these two regulatory mindsets appears in Figure 9.2, with the promotion mindset summarized in the upper half of the figure and the prevention mindset summarized in the lower half of the figure. In both cases, the antecedents to adopt or develop the particular mindset appear on the left side of the figure, while its downstream consequences appear on the right side.

Promotion Mindset

The promotion regulatory focus centers on the possibility of advancement. With a promotion focus, the individual is sensitive to positive outcomes, approaches possibilities of gain, and adopts an eager behavioral strategy of locomotion that might be characterized as “just do it.” The concern is with growth, advancement, and accomplishment as the person strives to advance from a neutral state to one of accomplishing a desire, a wish, or an ideal. It means making good things happen. For instance, the person seeks to graduate, develop a new skill, earn extra money, and be supportive of friends. When ideals are realized, the emotional experience is one of being cheerful, including feeling happy and satisfied, but when these sought-after ideals are left unrealized, the emotional experience is one of being dejected, including feeling disappointed, dissatisfied, and sad.

People can adopt a promotion focus either chronically, as in a personality disposition, or it can be induced situationally. An individual who is chronically promotion-focused has been socialized to believe that what matters in life is making good things happen. Parents tend to adopt a bolstering,

self-improvement mode in which the child is asked to accomplish ideals and fulfill aspirations (e.g., “My parents told me that they were proud of me when I was trying to be good at something”; Keller, 2008; Manian, Strauman, & Denney, 1998). Those ideals take the form of hopes and aspirations. In addition to parenting, a person’s tendency to adopt a promotion focus can be increased by growing up in a promotion-focused culture (e.g., Italy; Fulmer et al., 2010). An individual who is situationally promotion-focused is in an environment that signals possible gains and opportunities for advancement. For instance, to situationally induce a promotion focus, researchers ask participants to think about an ideal: “Describe how your hopes and aspirations are different now from when you were growing up” (Freitas & Higgins, 2002, p. 2).

Prevention Mindset

The prevention regulatory focus centers on responsibility and duty. With a prevention focus, the individual is sensitive to negative outcomes, avoids possibilities of loss, and adopts a vigilant behavioral strategy of caution that might be characterized as “do the right thing.” The concern is with safety, security, and responsibility as the person strives to prevent failing to do one’s duty, meet one’s obligations, and fulfill one’s responsibilities. It means being careful to make sure that bad things do not happen. For instance, the person seeks safety and security, to not fail, to not lose money, and to stay in touch and in close contact with friends. When oughts are maintained, the emotional experience is one of being relaxed and feeling calm, but when these ought obligations are lost, the emotional experience is one of being anxious, including feeling agitated, uneasy, afraid, and threatened.

People can adopt a prevention focus either chronically within the personality, or it can be induced situationally. An individual who is chronically prevention-focused has been socialized to see that what matters in life is preventing bad things from happening. Parents tend to adopt a critical, punishing, and restricting mode in which the child is urged to attain safety and meet duties, obligations, and oughts (e.g., “My parents often scolded and criticized me”; Keller, 2008; Manian, Strauman, & Denney, 1998). Doing what one ought to do means taking action to maintain the status quo, not make mistakes, be responsible, and keep danger at bay. In addition to parenting, a person’s tendency to adopt a prevention focus can be increased by growing up in a prevention-focused culture (e.g., Japan; Fulmer et al., 2010). An individual who is situationally prevention-focused is in an environment that signals possible losses in terms of one’s social obligations and responsibilities. For instance, to situationally induce a prevention focus, researchers ask participants to think about an ought: “Describe how your duties and obligations are different now from when you were growing up.”

Different Definitions of Success and Failure

Depending on one’s regulatory mindset, success and failure mean different things (Higgins, 1997). For a person with a promotion focus, success means the presence of a gain. The person strives to attain a positive outcome, and that positive outcome takes the form of some type of advancement or improved state of affairs. Success means that change has occurred, and that one has been able to advance a “present state” closer to a desired “ideal state.” Success has special meaning—namely, that something good has happened. Failure, on the other hand, means a nongain. It represents an inability to improve upon one’s current state. For a person with a promotion focus, failure does not have a special meaning; it is largely a nonevent because the person is still the same as before (e.g., one’s present self persists). For the promotion-focused individual, failure is not motivating, while success feeds into and motivationally energizes the system (e.g., re-energizes one’s eagerness to accomplish).

For a person with a prevention focus, success means the absence of a loss. The person strives to maintain a satisfactory state. Success means that no change has occurred and that an ought state has been maintained in a satisfactory way. That is, one started with a sense of duty, responsibility,

and obligation, and one has taken the actions necessary to prevent their loss. For a person with a prevention focus, success does not have a special meaning; it is largely a nonevent because the person is still the same as before (e.g., one's ought self persists). Failure, on the other hand, means a loss and that a painful change has occurred. It means that one has not been able to maintain an ought self. Failure has special meaning—namely, that something bad has happened (i.e., has not been prevented). For the prevention-focused individual, success is not motivating, while failure feeds into and motivationally energizes the system (e.g., re-energizes one's vigilance to stay safe).

Different Goal-Striving Strategies

Depending on one's regulatory mindset, goal striving is carried out in one of two different ways. With a promotion focus, the gain-based strategy can be characterized as open-mindedness, exploration, locomotion, acting fast, and eagerness. Locomotion means taking action to move from the present state to an ideal state. It corresponds colloquially with the slogan, “just do it.”

With a prevention focus, the safety-based strategy can be characterized as being cautious, staying committed, staying the course, protecting one's commitments, playing it safe, assessing where one stands, and being vigilant. Assessment means critically evaluating whether the status quo (an “ought to” standard) has been maintained. It corresponds colloquially with the slogan, “do the right thing.”

These two different goal-striving strategies raise the question of which strategy is the better or more productive of the two—is it better to act to accomplish something, or is it better to act responsibly and play it safe? Interestingly, the answer to that question depends on one's regulatory mindset. When the person with a promotion focus pursues a goal such as “earn a high GPA,” locomotion “feels right” and produces a sense of enjoyment and satisfaction. For instance, for a person with a promotion focus, the following strategies feel right (Freitas & Higgins, 2002):

- Complete schoolwork promptly.
- Attend all classes.
- Spend more time in the library.
- Be prepared for tests.
- Increase motivation to earn a high GPA.

However, when the person with a prevention focus pursues a goal such as “earn a high GPA,” vigilance “feels right” and produces a sense of enjoyment and satisfaction. For instance, for a person with a prevention focus, the following strategies feel right (Freitas & Higgins, 2002):

- Stop procrastinating.
- Avoid missing any classes.
- Spend less time at social gatherings/parties.
- Avoid being unprepared for tests.
- Do not lose motivation to earn a high GPA.

Further, when a person with a promotion focus uses vigilant caution, then those behaviors do not feel right and yield little enjoyment, just as when a person with a prevention focus uses eager locomotion, then those behaviors do not feel right and yield little enjoyment and satisfaction (Freitas & Higgins, 2002). Hence, one behavioral strategy is not necessarily better than the other. Rather, people with a promotion focus enjoy, feel more successful, and are more willing to continue using accomplishment-based eager-infused locomotion actions than they are to use vigilance-based actions, while people with a prevention focus enjoy, feel more successful, and are more willing to continue using safety-infused vigilant actions than they are to use accomplishment-based actions (Higgins, 2000).

Ideal Self-Guides and Ought Self-Guides

An ideal self-guide is a goal (or standard or aspiration) of what one would like to become. Pursuing an ideal leads the person to adopt a regulatory style oriented toward accomplishment and to a heightened sensitivity to move toward opportunities for positive outcomes. Eager approach behavior is both a natural and an enjoyable means to attain positive outcomes, because the person strives to change, improve, and achieve something new.

An ought self-guide is a goal (or standard or aspiration) specifying what one or others believe you should or must or have to do or be. Pursuing an ought leads the person to adopt a regulatory style oriented toward responsibility and to a heightened sensitivity to losing what one already has. Cautious vigilance is both a natural and an enjoyable means to prevent negative outcomes, because the person strives to be true to his or her sense of duty, obligation, and responsibility.

Both ideals and oughts are part of the self-system (Higgins, 1987). Some situations and life circumstances incline the person to attend to the possibilities of the ideal self, while other situations and life circumstances incline the person to attend to the responsibilities of the ought self. When inclined toward one's ideals, some strategies and ways of striving work better, but when inclined toward one's oughts, other strategies and ways of striving work better. For instance, consider an experiment in which some participants were asked to focus on the ideal self: "Please think about something you ideally would like to do. In other words, please think about a hope or an aspiration you currently have" (Freitas & Higgins, 2002, p. 3). Other participants were asked to focus on the ought self: "Please think about something you think you ought to do. In other words, please think about a duty or a responsibility you currently have" (Freitas & Higgins, 2002, p. 3). Next, participants in both conditions were asked to list either five eagerness-related action plans (i.e., "Please list some strategies you could use to make sure everything goes right and helps you realize your hope or aspiration.") or five vigilance-related plans (i.e., "Please list some strategies you could use to avoid anything that could go wrong and stop you from realizing your duty or obligation."). Finally, all participants were asked how enjoyable it would be to perform their listed action plan.

The results appear in Figure 9.3 (from Freitas & Higgins, 2002). Among participants oriented toward ideals, hopes, and aspirations, eagerness action plans were rated as highly enjoyable while vigilant action plans were rated as significantly less enjoyable. Among participants oriented toward

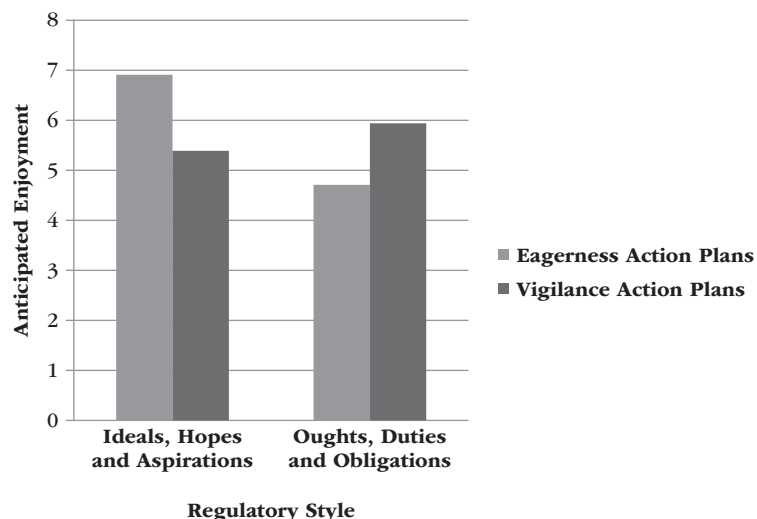


Figure 9.3 Enjoyment of Eagerness Action Plans and Vigilance Action Plans Both Depend on One's Regulatory Focus (Hope and Ideals vs. Duty and Oughts)

oughts, duties, and obligations, the pattern of findings was completely reversed: Vigilant action plans were rated as highly enjoyable while eagerness action plans were rated as significantly less enjoyable. A follow-up study produced similar results in which people with a promotion focus found an activity more interesting when they pursued it for fun rather as a serious activity, while people with a prevention focus found an activity more interesting when they pursue it as a serious activity rather as something done for fun (Higgins et al., 2010).

Regulatory Fit Predicts Strength of Motivation and Well-Being

The previous section highlights the importance of regulatory fit, which means that decisions and behaviors feel right when people rely on goal striving that fits their mindset (i.e., promotion vs. prevention mindset; Higgins, 2000, 2005). This sense that something feels right means that one's goal and strategies are matched (promotion matches with eager locomotion; prevention matches with cautious vigilance).

Regulatory fit also produces increased motivational strength (Forster, Higgins, & Idson, 1998). That is, people with a promotion focus exert more effort, feel more alert, value the experience more, and actually cope and perform better when they strive with eagerness rather than with vigilance, while people with a prevention focus exert more effort, feel more alert, value the experience more, and cope and perform better when they strive with vigilance rather than with eagerness (Higgins, 2000, 2006; Keller & Bless, 2008). Regulatory fit also contributes positively to psychological well-being because it leads people to feelings of interest, enjoyment, and satisfaction with what they are doing, whereas regulatory misfit interferes with and blocks feelings of interest, enjoyment, and satisfaction with what they are doing.

Such a conclusion acts as a springboard to take the discussion back to the two friends in the chapter-opening vignette who walked into the mega-drugstore with contrasting mindsets. The two friends had the same goals, but their contrasting mindsets led them to feel that one way of coping was more right than was another way of coping. One friend valued speed, the other valued accuracy. That does not mean that one way of coping (be fast, focus on the big picture, and “just do it”) is better or worse than the other way (be accurate, focus on the details, and “do the right thing”); rather, it means that for each person, one way of coping feels right and is associated with greater enjoyment and effort than the other way of coping.

Actually, both mindsets are actually necessary for optimal goal striving, and that is true within an individual person and within a couple, team, group, or society. Speed and accuracy almost always trumps speed without accuracy or accuracy without speed (Forster, Higgins, & Bianco, 2003). For instance, the students who make the highest GPAs are those who embrace both a high promotion and a high prevention mindset, and the U. S. Army soldiers who are most likely to complete an advanced training course in the elite Army Rangers unit are those who embrace both a high promotion and a high prevention mindset (Kruglanski et al., 2000). In the pursuit of many different life goals, sometimes what is needed is “taking action” (i.e., “I am a doer.”) but other times what is needed is “taking stock” (i.e., “I am a critical person.”) (from Kruglanski et al., 2000, p. 798). People have preferred ways of coping, and these ways reflect their promotion versus prevention mindset inclinations, but it is almost always true that the same goal can be achieved in different ways. A job well done is one that is done quickly and accurately, and such a job requires the employment of both mindsets.

MINDSET 3: GROWTH-FIXED

The growth-fixed mindset concerns the question of how people think about their personal qualities, such as their intelligence and personality traits. Generally speaking, the way people think about their personal qualities can be characterized in one of two ways (Dweck, 1999, 2006). Some people see

personal qualities as fixed and enduring characteristics. The thinking is you are either smart or dumb, an extravert or an introvert, and that is that (i.e., the personal quality is fixed and set). Other people, in contrast, see personal qualities as malleable characteristics that can be increased with effort. You may be dumb or introverted, but you can become smarter or more extraverted with experience, training, effort, practice, and strategic thinking (i.e., the personal quality is malleable and can be changed).

Fixed Mindset

Some people believe that their personal qualities are fixed attributes. They believe that they (and others) are endowed with fixed, set qualities. The thinking is “you either have it, or you don’t” in that some people are smart, or creative, or good in mathematics while other people are not. People who hold a fixed mindset are sometimes referred to as “entity theorists,” because they believe that there is a physical entity that dwells inside the person (e.g., a good brain, a creative gene) to determine how much of the personality quality a person has.

When people adopt a fixed mindset, they have the sense that if they have a lot of the fixed quality, then they are in good shape. For instance, if a person believes that she has a gift for languages, then she will expect to do well in a foreign language class at school. She also believes, however, that if she has little of the fixed personal quality, then she is in bad shape. For instance, she may believe that she lacks athletic genes and therefore expect to do poorly when invited to play a game of basketball.

Growth Mindset

Some people believe that their personal qualities are changeable. They believe that they (and others) can grow, increase, strengthen, and otherwise develop their malleable qualities. The thinking is “the more you try and the more you learn, the better you get” in that all people can become smarter and more creative, at least in proportion to their effort, training, and amount of practice. People who hold a growth mindset are sometimes referred to as “incremental theorists,” because the thinking is that personal qualities can be developed incrementally over time.

When people adopt a growth mindset, they have the sense that the more effort they put in, the more they will learn, grow, and develop and the better or higher will be their personal qualities. People with a growth mindset realize that people may start a developmental task with different amounts of the personal quality (intelligence, talent), but they believe that the extent to which they invest effort in the processes of learning, practicing, and training, then they will eventually end up with greater intelligence or greater talent and also that gains in these personal qualities will be explained by the hours and years of learning, practicing, and training invested in the developmental effort.

To gain greater familiarity with the fixed-growth mindset, consider whether you agree or disagree with the following two statements (Dweck, 1999):

- Your intelligence is something about you that you cannot change very much.
- You can always greatly change how intelligent you are.

People with a fixed mindset (i.e., entity theorists) will generally agree with the first statement but disagree with the second. People with a growth mindset (i.e., incremental theorists) will generally agree with the second statement but disagree with the first.

Meaning of Effort

For the person with a fixed mindset, the meaning of effort is “the more you try, the dumber you therefore must be.” High effort means low ability. High effort is, in fact, evidence that the performer lacks ability. For the person with a growth mindset, the meaning of effort is that it is a tool, the

means by which people turn on and vitalize the development of their skills and abilities. Given this introduction, consider your own reaction to the following:

You see a puzzle in a science magazine and it's labeled "Test your IQ!" You work on it for a very long time, get confused, start over and over, and finally make progress, but very slowly, until you solve it. How do you feel? Do you feel sort of dumb because it required so much effort? Or, do you feel smart because you worked hard and mastered it?

(Dweck, 1999, p. 39).

In a motivational analysis, the meaning of effort is a crucially important understanding when the individual faces a difficult task, as in the aforementioned puzzle (Hong et al., 1999). When facing a difficult task, what one needs is high effort. But marshaling forth high effort poses a motivational dilemma for the person with a fixed mindset. High effort is needed, but high effort is precisely what signals low ability, which is precisely the sort of thing an entity theorist wants most to avoid (Blackwell, Trzesniewski, & Dweck, 2007). People with a fixed mindset do not really believe that high effort will be effective, even on difficult tasks. They say things like, "If you are not good at a subject, working hard won't make you good at it." Actually, what people with a fixed mindset prefer to do is make high grades while coasting along with low effort, because the low effort simply confirms how smart they must be (Covington & Omelich, 1979). Thus, on difficult endeavors, people with a fixed mindset tend to adopt maladaptive motivational patterns by (1) withholding effort, (2) engaging in self-handicapping to protect the self, and (3) never really understanding or appreciating what effort expenditures can do for them in life (Blackwell Trzesniewski, & Dweck, 2007; Dweck, 1999; Stipek & Gralinski, 1996; Zuckerman, Kieffer, & Knee, 1998).

A person with a growth mindset, however, does truly understand the utility of effort—effort is what becomes learning. Effort is the tool to develop personal qualities. Incremental theorists experience no conflict between the effort challenging tasks require and their willingness to roll up their sleeves and engage in effortful, persistent, and challenging work.

Negative feedback works much the same way as does a difficult task in terms of its effect on people with fixed versus growth mindsets (Hong et al., 1999). When given negative feedback, the person with a fixed mindset tends to attribute poor performance to low ability. With such an interpretation, the typical response is to withdraw effort. On the other hand, when given negative feedback, the person with a growth mindset tends to attribute poor performance to not trying hard enough. With such an interpretation, the typical response is to increase effort. Greater effort is appropriate because one needs to take the remedial action necessary to reverse failure and negative feedback. The bottom line is that difficult tasks, negative feedback, and even effort itself mean different things to entity and incremental thinkers (to people with fixed and growth mindsets).

A growth mindset is more motivationally adaptive than is a fixed mindset. This can be understood not only by difference in the meaning of effort, but also by differences in the meaning of strategies and attributions. When students with a growth mindset reflect on their academic setbacks, they voice compensatory strategies such as, "I would work harder in this class from now on." The attribution being made is that the academic setback was caused by low effort or poor strategy (e.g., "I didn't study hard enough."). Such an optimistic attributional style leads to greater future effort and persistence. When students with a fixed mindset reflect on their academic setbacks, they voice defeatist strategies such as, "I won't take this subject ever again." The attribution being made is that the academic setback was caused by low ability (e.g., "I'm just not good at this subject."). Such a pessimistic attributional style leads to lesser future effort and persistence, because the pessimistic attribution simply leaves the person with no good path to success in the class. Rather than look for a good path to success, students with a fixed mindset tend to focus their attention on finding ways to protect their image and self-esteem.

The more adaptive motivational beliefs held by those with a growth mindset pay off in terms of performance. One longitudinal study measured students' fixed-growth mindset and then tracked students' academic performance over a two-year period. Students who endorsed a growth mindset

showed significantly improved performance two years later, while students who endorsed a fixed mindset showed no such improvement in their performance two years later (Blackwell Trzesniewski, & Dweck, 2007).

Origins of Fixed-Growth Mindsets

Fixed-growth mindsets are learned. This suggests the possibility that a fixed versus growth mindset is a product of one's socialization history. One way that children acquire the fixed versus growth mindset is through the praise and criticism they receive from their parents and teachers (Kamins & Dweck, 1999; Mueller & Dweck, 1998) because praise and criticism send children subtle or not-so-subtle signals about the nature of their personal qualities and abilities.

With ability praise, parental and teacher feedback essentially judges the child's personal qualities (e.g., you are smart, you are selfish), and this judgment tends to grow in children a fixed mindset and an entity-oriented meaning system. Alternatively, with effort praise, parental and teacher feedback essentially comments on the child's underlying coping style (e.g., you worked hard, you need a new strategy), and this commentary tends to grow in children a growth mindset and an incremental-oriented meaning system.

In one experimental demonstration of this developmental process, researchers first had young children work on a school-like task. After they completed the task, some children were randomly assigned to receive ability praise ("You must be smart at this"), some received effort praise ("You must have worked really hard"), and some received neither ability praise nor effort praise (a control group). Researchers then measured all children's attributions for their success and tendencies to endorse a fixed or a growth mindset. Children who heard ability praise made more ability attributions and endorsed the fixed mindset, while children who heard effort praise made more effort attributions and endorsed the growth mindset (Mueller & Dweck, 1998).

The experiment continued by later giving all children a difficult problem to solve, and the researchers measured children's attributions for failure, intrinsic motivation, and performance. Children who heard ability praise at the beginning of the study made low ability attributions, displayed a large decline in intrinsic motivation, and performed poorly, while children who heard effort praise made low effort attributions, maintained their intrinsic motivation toward the task, and performed better (Mueller & Dweck, 1998).

Ability criticism (e.g., "I'm very disappointed in you") and effort/strategy criticism (e.g., "Perhaps you could think of another way to do it") produce essentially the same effects as do ability praise and effort praise, because both are socializing messages about the child's personal qualities or process of coping (Kamins & Dweck, 1999).

Fixed and growth mindsets can also be trained. In an effort to teach students a growth mindset, a team of researchers gave middle school students an eight-session course in incremental thinking. One session showed neuroscientific evidence that intelligence can be developed as neurons and dendrites form new neural connections. A second session showed how challenging tasks grow brain cells. A third session centered on a group discussion on the topic, "Learning makes you smarter." Compared to students in a control group that did not receive the training, students who were taught incremental thinking were more likely to endorse a growth mindset and to be rated by their teachers as showing more effort and motivation in class; these students also showed a longitudinal increase in their academic performance that students in a control group did not show (Blackwell Trzesniewski, & Dweck, 2007).

As an illustration, let me ask this question: Will you become a great coder? (A computer programmer or scientist who can transform everyday media signals into computer code.) A person with a growth mindset in this domain will say, "Hmm. I'm not very good at coding today. But I love to play *Minecraft*, take classes, read books. Eventually, yes, I'll one day become a great coder." A person with a fixed mindset in this domain will say one of the following: "Ha! Good luck with that.

Table 9.2 Background Information to Support Either a Growth or a Fixed Mindset

| Background Information to Support a: | Albert Einstein | Tiger Woods | Rubik's Cube Champion | American Idol Singing Champion |
|--------------------------------------|--|---|---|--|
| Growth Mindset | Struggled to learn French, but had a deep interest, passion, and work ethic that lead to great understanding | Worked harder, practiced longer, and studied the game more than anybody else. | Practiced, practiced, practiced. Developed the best strategies. | Average singer who benefitted from excellent mentoring, training, and resources. |
| Fixed Mindset | Born with exceptional intelligence. Just had an incredible, one-of-a-kind brain. | Born with the perfect body for golf. Just had an incredible, one-of-a-kind will to win. | Some kind of freak, innate special abilities gift. | Gifted voice, Born with a silver tongue. |

Of course not, I'm just not that type; I'm not some computer genius or something", or "Yes. Coding just comes easily to me. I was born to code." To continue the example, consider the contrasting background information presented in Table 9.2 that could be cited to support either a growth mindset or a fixed mindset in explaining the high talent level of Albert Einstein, Tiger Woods, the Rubik's Cube champion, or the winner on American Idol.

In a study with college students, half of the students were provided with a training experience to show that intelligence is malleable and can grow with learning and experience while another half of the students were placed into a control group that did not receive the same information. In one session, students learned about how the brain can make connections and how it changes and develops in response to challenging activities (which was similar to the earlier study with the middle school students). In a second session, students wrote a letter to a struggling student about how intelligence grows over time with hard work. After learning this information, the students in the experimental group expressed more enjoyment of their academic work and displayed higher GPAs than did students in the control group (Aronson, Fried, & Good, 2002).

Different Fixed-Growth Mindsets Lead to Different Achievement Goals

Fixed-growth mindsets are important to achievement strivings because they guide the type of goals people pursue (Dweck, 1999; Dweck & Elliot, 1983; Elliot & Dweck, 1988). In achievement situations, people with a fixed mindset (entity theorists) generally adopt performance goals. People who adopt performance goals are concerned with looking smart and with not looking dumb. That is, they are concerned with performing well, especially while others are watching. The goal is therefore to use performance as the means to prove that one has much of a desirable characteristic (i.e., intelligence).

In contrast, people with a growth mindset (incremental theorists) generally adopt mastery goals in achievement situations. People who adopt mastery goals are concerned with mastering something new or different and with learning or understanding something thoroughly. That is, they are concerned with learning and improving as much as they can. The goal is therefore to use task engagements to improve—to get smarter by learning something new or important.

Both types of goals—performance and mastery—are common in the culture, and both encourage achievement (Elliot & Church, 1997; Harackiewicz et al., 1997). But typically, social settings like the workplace, sports field, and classroom pit these two goals against one another and ask (force?) workers, athletes, and students to pick one goal over the other. People are often asked to choose

between courses of action that allow them to:

- Look smart and competent but at the sacrifice of learning something new.
- Learn something new, useful, or important but at the sacrifice of looking smart or competent.

For instance, when college students select elective courses, they sometimes choose a course in which they can be assured of doing well, looking smart, avoiding errors, and impressing others, or they sometimes choose a course they hope will teach them something new, provide opportunities to learn, and offer an arena to grow their skills. When given such a choice, about half of the population will, on average, select a performance goal while the other half will select a mastery goal.

When people with fixed and growth mindsets face achievement situations, they prefer different goals. This is important because the type of achievement goal one pursues predicts that person's subsequent motivation, emotion, and performance (Ames & Archer, 1988; Stipek & Kowalski, 1989).

A series of studies with elementary school, middle school, and college students (Dweck & Leggett, 1988; Mueller & Dweck, 1998) assessed students' fixed versus growth mindsets and then asked students to choose between tasks that were either: (1) fun and easy, easy enough so mistakes would not occur, or (2) hard, new, and different—confusion and mistakes could occur, but the student would probably learn something useful. The more students endorsed a fixed mindset, the more they chose the performance opportunity (number 1 aforementioned). The more students endorsed a growth mindset, the more they chose the learning opportunity (number 2 aforementioned).

To test the idea that it is the fixed versus growth mindset that causes people to choose one type of achievement goal over another, researchers situationally manipulated participants' fixed versus growth mindset by asking them to read an informative booklet that provided rather convincing (and true) evidence to support either an entity or an incremental theory of intelligence. The booklet offered passages about the intelligence of notable individuals (including Albert Einstein, Helen Keller, and the child Rubik's Cube champion) as either a fixed and an inborn trait or as a malleable and an acquired talent (recall Table 9.2). Participants were randomly assigned to read either the entity-touting or the incremental-touting booklet. All participants were then given a choice between a performance-approach goal (task is hard enough to show that you are smart), a performance-avoidance goal (task is easy enough so that you won't get many wrong), or a mastery goal (task is hard, new, and different so that you can learn from it). As shown in Table 9.3, students who read the passage supporting an entity view of intelligence were significantly more likely to pursue a performance goal (81.8%) rather than a mastery goal (18.2%), whereas students who read the passage supporting an incremental view were significantly more likely to pursue the mastery goal (60.9%) rather than a performance goal (39.1%).

These results communicate two conclusions. First, fixed and growth mindsets are malleable and can be changed (as per the booklets). Second, fixed and growth mindsets cause people to pursue either performance or mastery goals (as per the findings reported in Table 9.3). Growth mindsets lead to mastery goals, whereas fixed mindsets lead to performance goals. In addition, these findings point to the need to understand what achievement goals are and why they are important.

Table 9.3 Effect of Mindset (Growth, Fixed) on Achievement Goal Choice

| Percentage of Students Who Selected This Type of Goal to Pursue: | Students with a Growth Mindset (Incremental Beliefs) | Students with a Fixed Mindset (Entity Beliefs) |
|--|--|--|
| Mastery Goal | 61% | 18% |
| Performance-Approach | 29% | 32% |
| Performance-Avoidance | 10% | 50% |

Note: Numbers represent percentages, and the two rows add to 100%.

Achievement Goals

Most theories of achievement motivation (those featured in Chapter 7) treat achievement behavior as a choice: Approach the standard of excellence or avoid it. The core question asks whether the person will approach success or avoid failure, and if so, with what intensity, latency, and persistence.

Achievement goal researchers, however, are more interested in *why* a person shows achievement behavior rather than *whether* achievement behavior occurs. This is because we so often in daily life do not so much seek out standards of excellence as we have them forced upon us. That is, we are asked, and are often required, to approach a standard of excellence put before us, as happens at school (a test), at work (a sales quota), in sports (an opponent), and so on. In these sorts of settings, achievement behavior is taken for granted (because it is required), and the question becomes not whether people pursue achievement but, instead, why people adopt one type of achievement goal rather than another.

This is an important distinction to make because it helps differentiate the concept of “goals” from that of “achievement goals.” Goals (e.g., “My goal is to win the tournament.”) represent the desired outcome (“the desired end-state”) the person strives to attain. Depending on how difficult, how specific, and how self-congruous that goal is, the person will show some level of achievement behavior (i.e., effort). Achievement goals (e.g., “My goal is to develop greater skill.”) are concerned with why the person is trying to achieve something. That is, why is the person trying to win the tournament—is she trying to develop her competence, learn more, and improve her skills (mastery goal), or is she trying to prove her competence and outperform others (performance goal)?

As summarized in Table 9.4, the two main achievement goals are mastery and performance (Ames & Archer, 1988; Dweck, 1986; Kaplan & Maehr, 2007; Nicholls, 1984; Spence & Helmreich, 1983). The two goals differ from one another in terms of the person’s understanding as to what constitutes competence (Elliot & McGregor, 1999). With mastery goals, the person facing the standard of excellence seeks to develop greater competence, make progress, improve the self, and overcome challenges through effort. Achieving a mastery goal means making progress according to a self-set standard. With performance goals, the person facing the standard of excellence seeks to demonstrate or prove competence, display high ability, outperform others, and succeed with little apparent effort. Achieving a performance goal means doing better than others.

The distinction between mastery and performance goals is important because the adoption of mastery goals in an achievement context (e.g., in school, at work, in sports) is associated with positive and productive ways of thinking, feeling, and behaving, whereas the adoption of performance goals in an achievement context is associated with relatively negative and unproductive ways of thinking, feeling, and behaving (Ames & Archer, 1988; Dweck, 1999; Dweck & Leggett, 1988; Harackiewicz & Elliot, 1993; Linnenbrink, 2005; Nolen, 1988; Spence & Helmreich, 1983). The benefits of adopting a mastery, rather than a performance, goal are illustrated in Figure 9.4.

When people adopt mastery goals, compared to when they adopt performance goals, they tend to (1) prefer challenging tasks that they can learn from rather than easy tasks on which they can demonstrate high ability (Ames & Archer, 1988; Elliot & Dweck, 1988), (2) use conceptually based learning strategies such as relating information to existing knowledge rather than superficial learning strategies such as memorizing (Meece, Blumenfeld, & Hoyle, 1988; Nolen, 1988), (3) be intrinsically

Table 9.4 Distinguishing between Mastery and Performance Goals

| Adoption of a Mastery Goal | Adoption of a Performance Goal |
|---|-------------------------------------|
| Develop one’s competence | Prove one’s competence |
| Make progress | Display high ability |
| Improve the self | Outperform others |
| Overcome difficulties with effort and persistence | Succeed with little apparent effort |

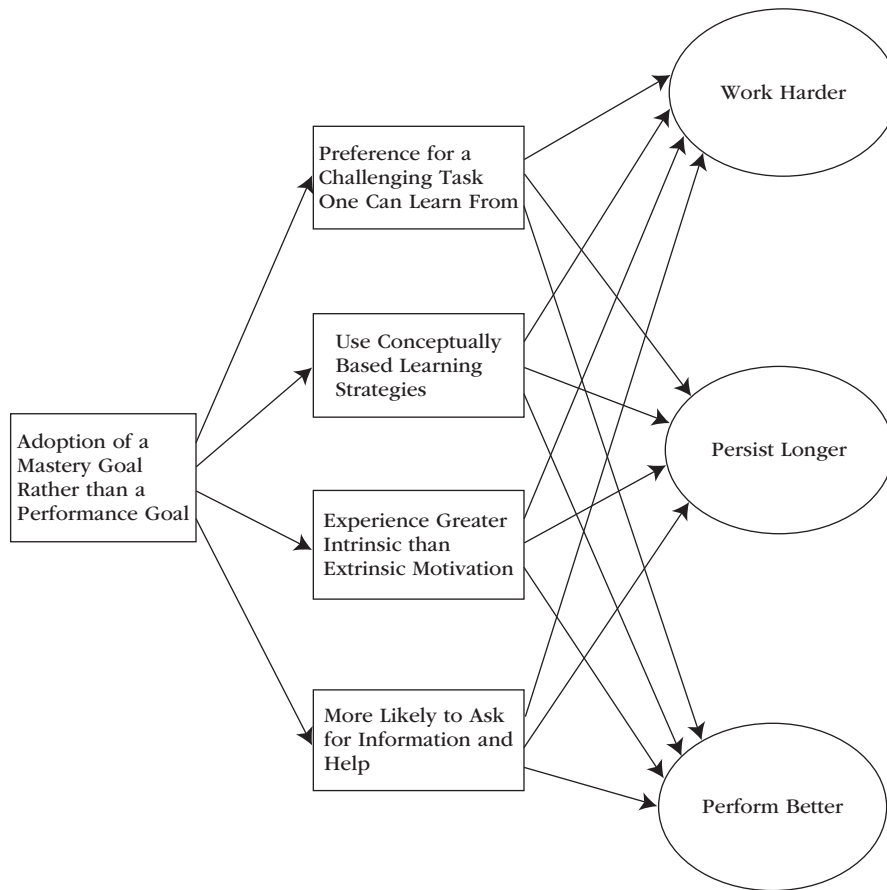


Figure 9.4 Positive and Productive Ways of Thinking, Feeling, and Behaving Associated with Mastery Goals

rather than extrinsically motivated (Heyman & Dweck, 1992), and (4) ask for help and information from others that will allow them to continue working on their own (Newman, 1991). These adaptive strategies allow those with mastery goals to work harder (increase effort in the face of difficulty rather than turn passive or quit; Elliot & Dweck, 1988), persist longer (Elliot & Dweck, 1988), and perform better (Spence & Helmreich, 1983).

Educational psychologists find the concept of achievement goals to be helpful in understanding students' classroom-based achievement motivation (Ames & Archer, 1988). Part of the reasons achievement goals appeal to educators is that teachers exert a relatively strong influence over their students' achievement goals. What classroom teachers do to promote either mastery goals or performance goals during instruction can be seen in Table 9.5.

Hence, to promote mastery rather than performance goals, teachers (and coaches, parents, managers, etc.; see Duda, 2005, for an overview of achievement goals in sport) can define success as improvement, value effort, communicate that satisfaction comes from hard work, focus on how students learn, view errors as a natural and welcomed part of the learning process, explain the utility of effort when trying to learn something new, and assess (grade) students on their extent of improvement and progress. When teachers intentionally create such a learning climate, students are more likely to adopt mastery over performance goals (Maehr & Midgley, 1996; Meece & Miller, 1999).

Table 9.5 Manifestations of Mastery and Performance Goals in the Classroom Context

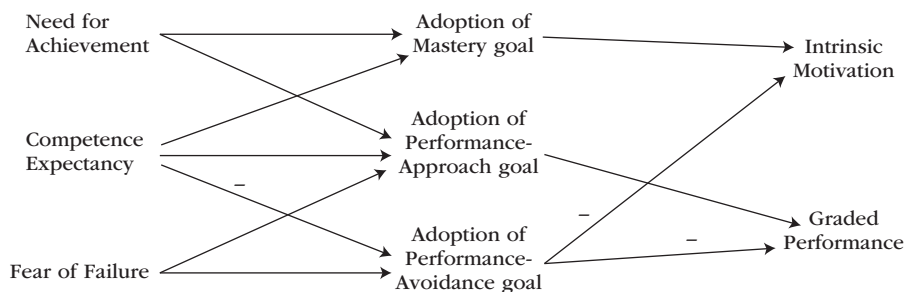
| Climate Dimension | Mastery Goal | Performance Goal |
|-----------------------------|---------------------------|---|
| Success defined as | Improvement, progress | High grades, high normative performance |
| Value placed on | Effort, learning | Normatively high ability |
| Reasons for satisfaction | Working hard, challenge | Doing better than others |
| Teacher oriented toward | How students are learning | How students are performing |
| Views errors or mistakes as | Part of learning | Anxiety eliciting |
| Focus of attention | Process of learning | Own performance relative to others' performance |
| Reasons for effort | Learning something new | High grades, performing better than others |
| Evaluation criteria | Absolute progress | Normative |

Integrating Classical and Contemporary Approaches to Achievement Motivation

The classical (Atkinson's theory; Chapter 7) and contemporary (achievement goals) approaches to achievement motivation can be combined and integrated into a single comprehensive model (Elliot, 1997). In the integrated model, two different types of achievement performance goals exist: performance-approach and performance-avoidance.

The classical achievement motivation constructs (achievement motivation, fear of failure, competence beliefs) serve as general, personality-like antecedent conditions that influence the specific type of goals the person adopts in a given achievement setting. For instance, as shown in Figure 9.5, people high in the dispositional need for achievement tend to adopt performance-approach goals, people high in the dispositional fear of failure tend to adopt performance-avoidance goals, and people with task-specific high competency expectancies tend to adopt mastery goals.

Figure 9.5 shows the results from an actual study that tracked participants' achievement strivings, achievement goals, course grades, and intrinsic motivation toward a college course (Elliot & Church, 1997). The need for achievement served as an antecedent for adopting mastery and performance-approach goals, the fear of failure served as an antecedent for adopting performance-approach and performance-avoidance goals (i.e., performance goals in general), and competency expectancies served as an antecedent for adopting mastery and performance-approach goals and for rejecting performance-avoidance goals (notice the negative sign). Furthermore, once these types of achievement goals were adopted, mastery goals increased intrinsic motivation, performance-approach goals increased performance, and performance-avoidance goals decreased performance (Elliot & Church, 1997).

**Figure 9.5** Antecedents and Consequences of the Three Achievement Goals

To communicate a better understanding of what performance-approach and performance-avoidance goals are, sample items from the Achievement Goal Questionnaire—Revised (Elliot & Murayama, 2008) are as follows:

- Performance-approach goal: My goal is to perform better than the other students.
- Performance-avoidance goal: My goal is to avoid performing poorly compared to others.
- Mastery goal: My aim is to completely master the material presented in this class.

Integrating the classical and contemporary approaches to achievement motivation overcomes the shortcomings of each individual approach (Elliot, 1997). The problem with the classical approach is that general personality dispositions do a poor job predicting achievement behavior in specific settings. In other words, general personality factors are not necessarily the regulators of achievement behavior in specific life domains such as school, sports, and work. A person might show strong achievement strivings at work yet only the fear of failure in social situations. The problem with the achievement goals approach is that a person is potentially left wondering where these different types of achievement goals come from in the first place. In other words, if you know a basketball player has a performance-approach goal (e.g., to have the highest scoring average on the team), the question remains as to why he or she adopted that particular achievement goal rather than another. Together, the two theories can predict achievement behavior in specific situations (using achievement goals) and can explain from where these achievement goals arise (using personality dispositions).

Avoidance Motivation and Ill-Being

Most of the discussion on the topic of achievement motivation focuses on its “approach” side. But the fear of failure is important as well, as it functions as a counterforce to achievement strivings by interfering with people’s performance, persistence, and emotionality (Birney Burdick, & Teevan, 1969; Elliot & Sheldon, 1997; Schmalt, 1982). The fear of failure is a functional counterforce because it prompts people to adopt performance-avoidance goals, such as trying to avoid making a mistake, trying to avoid performing poorly, or trying not to embarrass oneself. The pursuit of performance-avoidance goals is associated with negative emotions (Huang, 2011). These avoidance-oriented goals lead people to underperform, quit quickly, and lose interest in what they are doing (Elliot & Church, 1997; Elliot & Harackiewicz, 1996; Roney, Higgins, & Shah, 1995).

Such a relationship (fear of failure → performance-avoidance goals → maladjusted coping style in achievement settings) has important implications for personal adjustment and mental health. The more people fear failure, the more likely they are to adopt performance-avoidance goals. And the more avoidance goals a person harbors, the poorer his subsequent well-being tends to be on measures of self-esteem, personal control, vitality, life satisfaction, and psychological ill-being (Elliot & Sheldon, 1997). The primary reason why well-being suffers with performance-avoidance goals is that in trying so hard to avoid poor performances, one regulates day-to-day behavior in ways that produce dissatisfaction, negative affect, and little enjoyment or fulfillment. Always trying to avoid embarrassing oneself, even when successfully accomplished, takes its toll on well-being, as highlighted in Box 9.

A follow-up investigation showed that additional dispositional characteristics predispose people to adopt performance-avoidance goals, including neuroticism and poor life skills (e.g., poor social skills, poor time management; Elliot, Sheldon, & Church, 1997). People high in the fear of failure, high in neuroticism, and low in life-skill competence tend to adopt performance-avoidance goals (e.g., avoid being a boor at parties, avoid being lonely, avoid smoking or drinking). Trying to avoid doing something turns out to be a hard thing to do, relative to trying to do something (e.g., be friendly at parties). When people pursue avoidance goals, they generally perceive that they make little progress in the effort, and it is this perception of a lack of progress that leads to dissatisfaction, negative affectivity, diminished interest, and impaired psychological well-being.

BOX 9 *Reducing Achievement Anxiety*

Question: Why is this information important?

Answer: So you can reduce anxiety and poor performance in achievement situations.

How much anxiety do you feel while taking tests in school, competing in athletics, or making a presentation at work? Whenever we face a standard of excellence—a task that we know will end with a success/failure evaluation from both self and an audience of others—we feel a blend of enthusiasm and a desire to participate mixed in with anxiety and a desire to avoid it all. The athlete running a race, for example, is both eager to test her skills but also hesitant because she might embarrass herself.

The easiest way to reduce anxiety in achievement settings is to change the content of your thoughts. Just before running the race, for instance, an eager runner thinks, “I want to finish the race in under 10 minutes,” while the anxious runner thinks, “I’m afraid I’ll finish in last place” (Schmalt, 1999). Notice that these thoughts mirror performance-approach and performance-avoidance goals.

Can control over achievement anxiety really be that simple? Can it really be that straightforward—change your goals and you change your anxiety? Well, no, for two reasons. First, changing the way you think is not as easy as it might first sound. Thoughts are often deeply rooted. Second, achievement situations themselves generate anxiety—time deadlines, presence of an audience, task difficulty, and so on. And our own dispositional neuroticism (emotional instability) further contributes to our anxiety.

But achievement anxiety comes in two forms: cognitive worry and physiological upset (“hyper-emotionality”).

The good news is that physiological hyper-emotionality does *not* undermine performance in achievement settings; only cognitive worry does (Elliot & McGregor, 1999). The primary cause of worry in achievement settings are performance avoidance goals. That is, the roots of worry are performance-avoidance goals like, “I just want to avoid making a mistake.” So in a sense, these avoidance goals *are* that straightforward. Change your achievement goals and you change your achievement anxiety.

In trying to reduce worry-based anxiety, some productive advice is to change performance-avoidance goals into performance-approach (or mastery) goals. The arousal-based anxiety may remain (e.g., you may still feel nervous or pumped up standing in front of an evaluative audience), but the worry-based anxiety that really debilitates performance will fade in proportion to which performance-avoidance goals are successfully translated into approach-oriented goals.

The preceding advice is precisely the procedure used in experiments on how achievement goals affect motivation, anxiety, and performance. One group of participants is randomly given a performance-approach goal, “Demonstrate you have high ability.” A second group of participants is randomly given a performance-avoidance goal, “Don’t do worse than others.” The first group experiences less anxiety than does the second group (Elliot, 1999; Elliot & Harackiewicz, 1996; Elliot & McGregor, 1999). Experiments such as these make it clear that experimenters can change the contents of our thoughts. It stands to reason that performers can follow this lead and change their own way of thinking.

COGNITIVE DISSONANCE

Most people see themselves as competent, moral, and reasonable. Most people harbor such a favorable view of themselves that a positive self-view can be understood as a near-universal mindset. This mindset is different from the first three discussed in this chapter (deliberative–implemental, promotion–prevention, and growth–fixed) in that it is a singular, not a dual, mindset. That is, almost everyone walks around with the mindset “I am a competent, moral, and reasonable person.”

While practically everyone walks around with this favorable mindset, it is still the case that people all too often engage in behavior that leaves them feeling stupid, immoral, and unreasonable. For instance, people smoke cigarettes, toss litter, tell white lies, neglect to recycle, drive their cars recklessly, skip classes, act rudely toward strangers, and engage in other such hypocritical conduct. When beliefs about who the self is and what the self does are inconsistent (i.e., believing one thing, yet actually behaving in the opposite way), people experience a psychologically uncomfortable state referred to as “cognitive dissonance” (Aronson, 1969, 1992, 1999; Festinger, 1957; Gerard, 1992; Harmon-Jones & Mills, 1999).

With cognitive consistency, two beliefs are consonant when one follows from the other (a mindset that I am a moral person is consistent with the behavior of telling the truth). With cognitive

dissonance, two beliefs are dissonant when one is opposite to the other (a mindset that I am a moral person is dissonant with the behavior of lying). Just how psychologically uncomfortable cognitive dissonance is depends on its magnitude. When intense and uncomfortable enough, dissonance takes on motivational properties, and the person begins to seek ways to eliminate, or at least reduce, the dissonance.

Imagine the following scenario of a woman whose sense of self includes pro-environmental beliefs. She believes in clean water, clean air, clean land, energy conservation, and nature preservation. She is a member of the Sierra Club. She believes that polluted air, polluted land, energy consumption, and overdevelopment are immoral and unreasonable. Her proenvironmental beliefs are all consonant with one another (i.e., believing in clean water is consistent with believing in nature preservation). But suppose that she reads an article in the newspaper that says that exhaust fumes from airlines are rapidly and irreversibly depleting the ozone layer. Suppose further that this environmentalist has a job and lifestyle that require her to fly, and frequently so. She loves the environment, but she needs to fly. She believes one thing about herself, but she behaves in a way that contradicts that self-view. This is an air of hypocrisy, and it is this experience of hypocrisy between self and action that causes dissonance (Aronson, 1999; Fried & Aronson, 1995).

The experience of dissonance is psychologically aversive (Elliot & Devine, 1994). People seek to reduce it (Gerard, 1992; Harmon-Jones & Mills, 1999), and they do so in one of four ways (Festinger, 1957; Harmon-Jones & Mills, 1999; Simon, Greenberg, & Brehm, 1995):

- Remove the dissonant belief.
- Reduce the importance of the dissonant belief.
- Add a new consonant belief.
- Increase the importance of the consonant belief.

Our environmentalist, for instance, might (1) quit flying and start driving an electric vehicle, or she might come to believe that volcano ash, not airplane exhaust, is responsible for the hole in the ozone layer (thereby removing the dissonant belief); (2) trivialize her immoral or unreasonable act of flying by justifying that her flying to work will have no impact on the global condition, especially when considering how much worse pollution is at factories and refineries (thereby reducing the importance of the dissonant belief; Simon Greenberg, & Brehm, 1995); (3) read articles that reassure her that science is hard at work and will soon solve the pollution problem, or she might think of how truly enjoyable and useful it is to fly (thereby adding a new consonant belief, or two); or (4) think to herself that airplane exhaust proves that the government needs emission-control device laws for all airplanes (thereby increasing the importance of the consonant belief). How resistant to change these beliefs are depends on (1) how close to reality they are (e.g., Will science really find a solution?), (2) how important or central they are to one's self-view (Simon Greenberg, & Brehm, 1995; Thibodeau & Aronson, 1992), and (3) how much pain and cost must be endured (e.g., How painful will it be to quit flying?). Therefore, reality, importance, and personal costs work to support one's current beliefs, while dissonance puts pressure on hypocritical ways of thinking and behaving. It is a psychological competition—reality and self-interest on the one hand versus dissonance on the other—with motivational implications.

Dissonance-Arousing Situations

Human beings frequently encounter information or engage in behavior that is dissonant with their self-view. Four dissonance-arousing circumstances that bring on this hard-to-reconcile “I did one thing, yet believe the opposite” experience include choice, insufficient justification, effort justification, and new information.

Choice

People often choose between alternatives. In some cases, the choice is easy, because the merits of one alternative far outweigh the merits of its rival. In other cases, the choice is not so easy, because both alternatives offer a number of advantages and disadvantages. Once such a difficult choice is made, people experience dissonance (or “postdecision regret”). Dissonance is resolved by appreciating the chosen alternative—viewing it more positively—and by depreciating the rejected alternative—viewing it more negatively (Brehm, 1956; Gilovich, Medvec, & Chen, 1995; Knox & Inkster, 1968; Younger, Walker, & Arrowood, 1977). To illustrate this process for yourself, simply ask a person both before and after making a difficult choice the following question: “How sure are you that your choice is the correct one?” Whether the choice involves deciding between restaurants, classes, or marriage partners, postchoice decision makers are invariably more confident in the wisdom of their choices than are those still in the decision-making process.¹

Insufficient Justification

Insufficient justification addresses how people explain actions for which they have little or no external prompting (Festinger & Carlsmith, 1959). For example, people might ask themselves why they donated money to a charity or why they stopped to pick up litter. To justify such unprompted action, people routinely and perhaps necessarily add new consonant beliefs to their favorable self-view mindset, such as “I’m generous” and “I’m an environmentalist.”

Effort Justification

During initiation rituals in the military, fraternities, sororities, athletic teams, neighborhood gangs, reality television shows, and other groups, recruits often exert great effort and perform extreme behaviors that must later be justified. Consider the Army private who parachutes out of an airplane as part of boot-camp training. For novice recruits, parachuting is extreme behavior. To justify why they would put their lives on the line like this, privates typically endorse a rather extreme liking for the behavior. Extreme behaviors breed extreme beliefs: “If I did *that*, then I must really *love* this place!” Dissonance theory proposes that the attractiveness of a task increases as a direct function of the magnitude of effort expended to complete it (Aronson & Mills, 1959; Beauvois & Joule, 1996; Rosenfeld, Giacalone, & Tedeschi, 1984). People who engage in extreme behavior need to develop correspondingly extreme values (Aronson, 1988).

New Information

As you read books, listen to the radio, watch television, attend lectures, view websites, and interact with others, you expose yourself to opportunities to contradict your beliefs. One group of researchers followed the Seekers, a cult-like group convinced that their city and the entire western coast of the Americas would be destroyed by a great flood on a specific day (Festinger, Riecken, & Schachter, 1956, 1958). On the day before the flood, the group was told that a man would appear at the leader’s house at midnight to take them to a flying saucer. Midnight came and passed with no knock on the door, so the Seekers found their cherished belief of doom unequivocally disconfirmed. Given belief disconfirmation, what were the dissonance-suffering Seekers to do? A few did reject their belief and dropped out of the group. Most Seekers, however, were more rationalizing than rational. They saw the disconfirmation as a test of their commitment to the cause (the world was saved because of our faith!) and responded with strong, persistent attempts at proselytizing. By proselytizing, the latter

¹ A good illustration of this phenomenon is the often heard (yet absurd) quote from a person looking back on life, “If I had to live my life over again, I wouldn’t change a thing—not where I lived, what school I attended, who I married, which career I pursued, nor anything I said or did.”

group tried to resolve their dissonance by recruiting new people who would agree with their beliefs (i.e., add new consonant beliefs). Quite literally, each new convert allowed the Seekers to reduce their dissonance that the predicted cataclysm never materialized.

Motivational Processes Underlying Cognitive Dissonance

Dissonance motivates a change in ways of believing or behaving. An overview of the psychological processes underlying dissonance motivation and people's attempts to reduce or eliminate it appears in Figure 9.6 (Harmon-Jones & Mills, 1999).

Most dissonance researchers portray dissonance motivation through the analogy of pain—the person changes beliefs or behaviors in order to eliminate the aversive, persistent, and uncomfortable experience. But dissonance can be used to accomplish productive social goals as well. For instance, using a dissonance framework, researchers have been successful in changing people's attitudes and behaviors toward prosocial causes such as using condoms during sex (Aronson, Fried, & Stone, 1991), conserving natural resources (e.g., water; Dickerson Thibodeau, Aronson, & Miller, 1992), and reducing prejudice (Leippe & Eisenstadt, 1994). The conclusion from each of these three experiments may be summarized succinctly as follows: "Saying, or doing, is believing." Beliefs follow from (and act to justify) what one says and does. For instance, if you join your friend while she walks in the multiple sclerosis walkathon, your attitude toward people with multiple sclerosis will probably start to change for the better (i.e., add a new consonant belief to justify the effort). The fact that you walked in a charity's marathon is effort that needs to be justified, especially if it rained.

Self-Perception Theory

Cognitive dissonance theory argues that people develop and change their beliefs in response to a negative motivational–emotional state born in cognitive contradiction (i.e., a core "I am a good person" mindset that is contradicted by behavior that suggests "I am not a good person."). Self-perception theory argues that people develop and change their beliefs for a reason that does not involve a mindset. It offers the alternative interpretation that people develop and change their behavior based simply on self-observation (Bem, 1967, 1972; Bem & McConnell, 1970). For example, we eat squid for whatever reason (maybe we did not know it was squid because the restaurant referred to it as calamari) and after doing so we presume that since we ate squid, we must therefore like it. Both cognitive dissonance theory and self-perception theory revolve around the tenet that "saying, or doing, is believing." The difference between the two theories is that cognitive dissonance theory argues

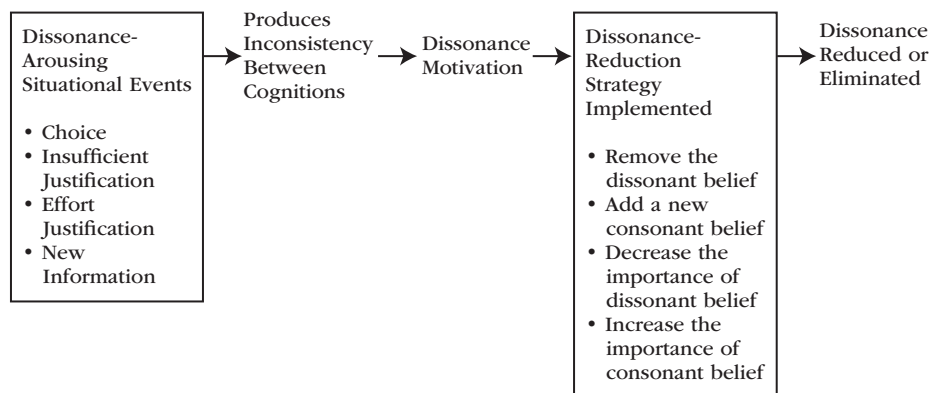


Figure 9.6 Cognitive Dissonance Processes

that beliefs change because of negative affect from cognitive inconsistency, whereas self-perception theory argues that we simply come to believe whatever we do and say.

The dissonance versus self-perception debate generated a great deal of research (Elliot & Devine, 1994; Fazio, Zanna, & Cooper, 1977, 1979; Ronis & Greenwald, 1979; Ross & Shulman, 1973; Snyder & Ebbesen, 1972; Zanna & Cooper, 1976). The conclusion was that both cognitive dissonance and self-perception theories are correct, but each applies to a different set of circumstances. Self-perception theory applies best to situations in which people's beliefs are initially vague, ambiguous, and weak. In such cases, people do indeed draw inferences about themselves from their behavior. On the other hand, dissonance theory applies best to situations in which people's beliefs are initially clear, salient, and strong.

SUMMARY

A mindset is a cognitive framework that guides one's attention, information processing, decision making, and thinking about the meaning of effort, success, failure, and one's own personal qualities. Once adopted, a mindset functions as a cognitive motivational system that produces many important downstream consequences in one's thinking, feeling, and acting. The chapter highlighted three mindsets: deliberative–implemental, promotion–prevention, fixed-growth, and added a discussion of cognitive dissonance.

With the deliberative versus implemental mindset, the key distinction is between the initial selection of goals, which involves a great deal of deliberation, and the volitional regulation of the action necessary to bring that chosen goal to fruition, which involves strategic execution and willpower. In a deliberative mindset, the person is open-minded and attention is cast wide to take in information about the desirability and feasibility of considered goals. Once a goal has been set and committed to, the person benefits from making a transition from a deliberative to an implemental mindset. In an implemental mindset, the person is closed-minded and attention is focused narrowly to concentrate only on information that is related to goal attainment.

Regulatory focus theory proposes that people strive for their goals by using two separate and independent motivational orientations: promotion and prevention. With a promotion mindset, the focus is on advancing the self toward ideals by adopting an eager locomotion behavioral strategy; with a prevention mindset, the focus is on preventing the self from not maintaining one's duties and responsibilities by adopting a vigilant behavioral strategy. The two mindsets lead to different definitions of success, because people with a promotion focus are sensitive to success while people with a prevention focus are sensitive to failure. The two mindsets also lead to different goal-striving strategies, because people with a promotion mindset utilize eager locomotion (“just do it”), while people with a prevention mindset utilize cautious vigilance (“do the right thing.”). Attention to ideal self-guides orients people toward a promotion mindset, while attention to ought self-guides orients people toward a prevention mindset. Both mindsets are necessary for optimal striving, but regulatory fit (promotion with eager locomotion; prevention with cautious vigilance) feels right and leads to more effort, better performance, and enhanced well-being.

The growth-fixed mindset concerns how people think about their personal qualities, such as their intelligence. The growth mindset is the belief that one's personal qualities are malleable, changeable, and can be developed through effort. The fixed mindset is the belief that one's personal qualities are fixed, set, and not open to change. For the person with a fixed mindset, effort is not valued and high levels of effort signal that the person must therefore have low ability; for the person with a growth mindset, effort is highly valued and high levels of effort function as the tool by which people develop and grow their skills and abilities. Fixed-growth mindsets are socialized beliefs, because ability praise from parents and teachers tends to cultivate in children a fixed mindset, whereas effort praise tends to cultivate a growth mindset. A growth mindset can be taught, and explicit training programs have been successful and have helped students develop their qualities and improve their

performances. The two mindsets lead to different achievement goals, because people with a fixed mindset tend to adopt performance goals while people with a growth mindset tend to adopt mastery goals. Achievement goals involve a person's understanding of what constitutes competence, because performance goals equate competence with outperforming others while mastery goals equate competence with making progress against a self-set standard. Generally speaking, mastery goals yield more productive ways of thinking, feeling, and behaving than do performance goals.

Cognitive dissonance is rooted in the near-universal self-view that "I am a competent, moral, and reasonable person." When people engage in behavior that is inconsistent with that favorable view of self (e.g., "I am a good person, but I just did something bad."), the inconsistency or hypocrisy creates the cognitive inconsistency that is dissonance. The basic tenets of cognitive dissonance theory are that people dislike inconsistency, the experience of dissonance is psychologically aversive, and people seek to reduce dissonance by striving to maintain consistency in their beliefs, attitudes, values, and behaviors.

READINGS FOR FURTHER STUDY

Deliberative–Implemental Mindset

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Personal Control Beliefs

MOTIVATION TO EXERCISE PERSONAL CONTROL

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- Perceived Control: Self, Action, and Control
- Coping with Failure

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 - Emotional Deficits
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Pessimistic Explanatory Style

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REACTANCE THEORY

EXPECTANCY-VALUE MODEL

Value

Value Interventions

SUMMARY

READINGS FOR FURTHER STUDY

What does the future have in store? Will you graduate from college? Will your classes be interesting? Will you pass this course? Will you find this 10th chapter interesting? This winter, will you catch the flu? When you apply for your next job, will you get it? Will you fall in love? Will you fall out of love? If you were to go on a blind date or meet your mate's parents, would these strangers like you? Will you find someone to share your life with, as in marriage? When you drive to school or work tomorrow, will you get stuck in traffic? Will you get a parking ticket? Will you live to see your 50th birthday?

Can you cope with what the future brings? Do you have what it takes to graduate? If you underperform on your first exam in this course, can you mount a comeback and still do well in the course? In relationships, can you make another person laugh? Can you cheer up your friends when they feel depressed? Can you defuse arguments? Could you be the life of a party? If a bully insults and pesters you, could you handle the situation? Can you run 3 miles without stopping to rest? Okay, how about 1 mile? Can you sing? Could you hit a golf ball on your first try? Could you hit it if an audience was watching?

Our expectancies of what will happen and our expectancies how well (or poorly) we can cope with life's challenges have important motivational implications. Imagine how motivationally problematic your college experience would be if you expected not to graduate, not to pass a particular course, not to get a job after graduation, and not to understand the professor or this book. Imagine how motivationally problematic your interpersonal relationships would be if you expected others not to like you, not to care about your welfare, or to express only hostility. What if you expected that everyone you met would reject you? Imagine how motivationally problematic your athletic participation would be if you expected only to fail and to embarrass yourself. Imagine how difficult it would be to muster the motivation to run 3 miles if you knew beforehand that you could not do so.

MOTIVATION TO EXERCISE PERSONAL CONTROL

This chapter's focus is the motivation to exercise personal control over what does and does not happen to you. To some extent, environments are both predictable and responsive to our control attempts. Because this is so, people are often able to figure out what they need to do to exert control. The strength with which people try to exercise personal control can be traced to the strengths of their expectancies of being able to do so.

Expectancy is a subjective prediction of how likely it is that an event will occur. That event can be an outcome (e.g., lose 10 pounds) or a course of action that brings the outcome to pass (e.g., run 20 minutes on a treadmill without having a heart attack). For instance, when politicians enter an election or athletes enter a competition, they appraise the likelihood that they will win. Before

people leap across a creek or tell a risqué joke, they appraise the likelihood of landing on solid ground. In anticipating events and outcomes, people rely on their past experiences and personal resources to make forecasts—expectancies—about what the future holds and how well they will be able to cope with what is to come.

Two Kinds of Expectancy

Two types of expectancies exist: efficacy and outcome (Bandura, 1977, 1986, 1997; Heckhausen, 1977; Peterson Maier, & Seligman 1993). An efficacy expectation (see Figure 10.1) is a judgment of one's capacity to execute a particular act or course of action. The question is, "Can I do it?" An outcome expectation (see Figure 10.1) is a judgment that a given action, once performed, will cause a particular outcome. The question is, "Will it work?"

For an illustration of these two kinds of expectancy, consider the political candidate who wants to win an election and believes that by giving a convention speech she can win. Efficacy expectations pertain to her confidence that she can "do what it takes" to give a competent speech. Outcome expectancies pertain to her beliefs that once she gives her competent speech, the speech will produce positive outcomes—people will listen, be persuaded by her oratory, and vote for her in the election.

Efficacy and outcome expectations are separate, causal determinants to the initiation and regulation of behavior (Bandura, 1991). Consider the different expectancies that might run through a surgeon's mind in preparing for an operation: (1) his efficacy expectation that he can skillfully perform the surgery and (2) his outcome expectation that the surgery, once enacted, will produce certain physical, psychological, emotional, financial, and social benefits for his patient and for himself. Both efficacy and outcome expectations must be reasonably high before behavior becomes energetic, goal directed, and sustained over time. Thus, an analysis of efficacy and outcome expectancies allows us to understand people's reluctance to engage in activities such as public speaking, dating, athletics, and job interviews. To speak publically, date, compete, or interview, the person must not only be confident in his efficacy to execute these behaviors, he must also be reasonably assured that an effective performance will pay off (i.e., will lead to desired outcomes). Take away either of these positive forecasts, and reluctance and avoidance become rather logical ways of acting.

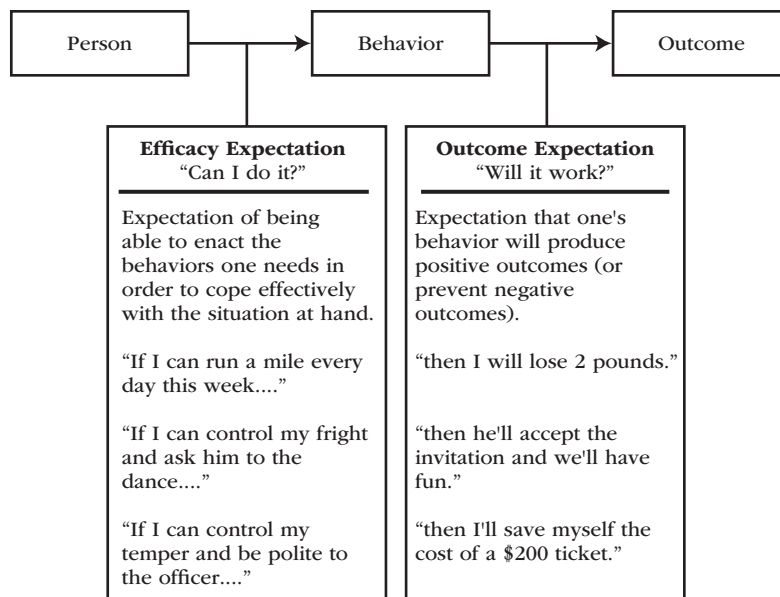


Figure 10.1 Two Kinds of Expectation: Efficacy and Outcome

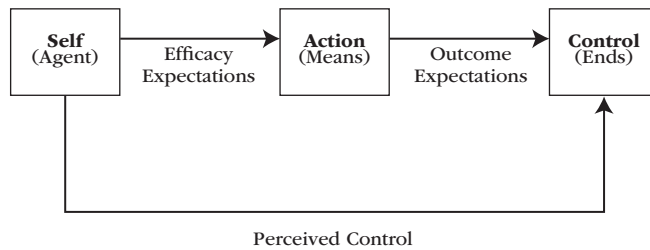


Figure 10.2 *Self → Action → Control Model of Perceived Control*

Perceived Control: Self, Action, and Control

Figure 10.1 presents the interrelationships between Person, Behavior, and Outcome at the center of expectancy motivation. Some researchers prefer using the alternative terminology of Self → Action → Control to communicate this same idea (Skinner, 1996), so Figure 10.2 presents this alternative (but interchangeable) terminology. As shown in the figure, the defining relation in the study of perceived control is that of Self (Agent) → Control (Ends). People express this Self → Control relation in everyday questions such as, “Can I improve my health?”, “Can I improve my marriage?”, and “Can I earn a scholarship?” In other words, perceived control revolves around how the Self (Agent) can exert Control (Ends). Figure 10.2, like Figure 10.1, shows how perceived control can be broken down into the more basic questions of “Can I cope effectively?” (Self → Action) and “Will my coping improve my health, marriage, or scholarship prospects?” (Action → Control). So, Figures 10.1 and 10.2 communicate the same message, but Figure 10.2 introduces and highlights the larger superordinate construct of perceived control (Self → Control). The positive emotional consequences of high efficacy expectations combined with high outcome expectations can be seen in Box 10.

Coping with Failure

While “personal control beliefs” is a wide-ranging topic, much of its essence can be seen in how we cope with failure. Life is full of difficulties, stressors, setbacks, competitions, external evaluations, and time pressures, and that means that life brings us a steady dose of failure feedback. To function competently when failure comes our way, we need to be not disrupted by it but instead use what it is telling us so that we can enhance our progress in whatever it is we are trying to do.

How people cope well versus poorly with failure is illustrated in Figure 10.3. Most importantly, we can appraise (interpret) a failure episode as either a challenge or a threat (Skinner & Wellborn, 1997).

Failure as challenge means we understand the meaning of failure as an opportunity for growth and learning. Thinking this way, we tend to cope in mastery-oriented ways, and this empowering coping style leads to adaptive functioning and outcomes.

Failure as threat means we understand the meaning of failure as a danger to our well-being—something is wrong with us that has caused the failure to happen. Thinking this way, we tend to cope in defensive, self-protective ways, and this debilitating coping style leads to maladaptive functioning and outcomes.

Figure 10.3 also recognizes that appraisal and coping are highly social processes (Rafferty-Helmer & Grolnick, 2017). When we are surrounded by relationship supports (parents, teachers, managers, a spouse that cares about and supports us), we tend to appraise and cope with failure as a challenge that we can learn from and overcome via new-and-improved effort, strategy, and instruction. It is a learning process, and we have the people around us to understand and support us in seeing failure as helpful information and feedback. When we are surrounded by relationship thwarts (people who control us, make us feel incompetent, and do not really care

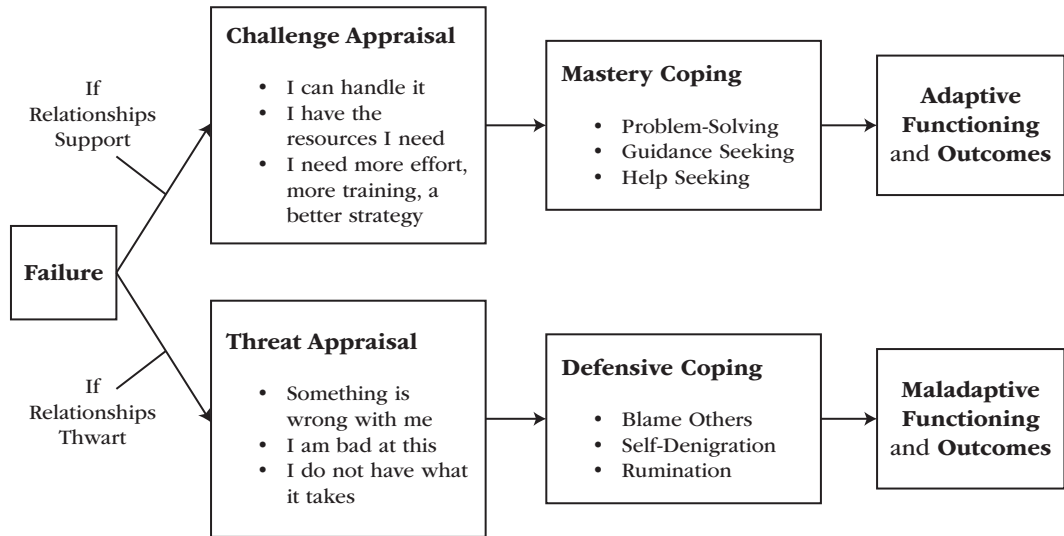


Figure 10.3 Coping with Failure—Adaptively vs. Maladaptively

about us), we tend to appraise and cope with failure as a threat. We focus our attention inward in an effort to defensively protect our self-esteem, which takes our attention away from what would actually represent effective coping, which would be channeling our attention and effort into mastering the environment and the challenges it brings.

SELF-EFFICACY

Efficacy expectations center on questions such as the following: “Can I perform well on this task?” and “If things start to go wrong during my performance, do I have the resources within me to cope well and turn things around for the better?” But efficacy expectations and self-efficacy are not quite the same thing. Self-efficacy is a more generative capacity in which the individual (i.e., the “self” in self-efficacy) organizes and orchestrates all of his or her skills and capacities to cope with the demands and circumstances he or she faces. It is the capacity to use one’s personal resources well under diverse and trying circumstances. Formally, self-efficacy is defined as one’s judgment of how well (or poorly) one will cope with a situation, given the skills one possesses and the circumstances one faces (Bandura, 1986, 1993, 1997).

Self-efficacy is not the same as “ability.” Competent functioning requires not only possessing skills (i.e., ability), but also the capacity to translate those skills into effective performance, especially under trying and difficult circumstances. A snow skier might have wondrous slalom, mogul, and downhill racing skills but still perform dismally if the wind blows, the snow ices, or the slopes are crowded with clumsy skiers who keep falling in random ways. Self-efficacy is just as important a determinant of competent functioning as is ability because performance situations often are stressful, ambiguous, and unpredictable, and as one performs, circumstances *always* change (Bandura, 1997). Several studies have tested the comparative predictive power of ability on the one hand and self-efficacy on the other hand and found that self-efficacy makes both a significant and a unique contribution to the prediction of performance and outcomes (Collins, 1982; Pajares & Kranzler, 1995).

Consider that most of us can drive a car rather well on the interstate because most of us rate very high on abilities such as steering, braking, negotiating traffic, reciting traffic laws, and finding our destinations. But self-efficacy becomes important when circumstances rise to test our abilities, as

when driving in an unreliable car on an unfamiliar road with poorly marked streets, during a snow-storm, as monster trucks whiz by splashing slush that covers the windshield. Even highly skilled drivers sometimes perform dismally because circumstances change in stressful and overwhelming ways. Under trying circumstances, the driver must have what it takes to keep arousal in check, to think clearly in deciding between options, to avoid perils, and perhaps to negotiate or show leadership in enlisting the assistance of the passenger. The same self-efficacy analysis applies to academic test taking (Bandura, Cioffi, Taylor, & Brovillard, 1988), athletic performance (Feltz, 1992), self-defense (Ozer & Bandura, 1990), health-promoting behaviors (Bandura, 1998), and collective agency for solving social problems (Bandura, 1997).

The opposite of efficacy is doubt. For the driver who doubts his or her capacity to cope, then surprises, setbacks, and difficulties will create anxiety (Bandura, 1988), confusion (Wood & Bandura, 1989), negative thinking (Bandura, 1983), and aversive physiological arousal and bodily tension (Bandura et al., 1985). Imagine the unfolding of events that might occur when the self-doubt of an otherwise skilled driver comes face-to-face with surprises, setbacks, and difficulties. Perhaps an unexpected storm begins (surprise), or the windshield wipers fail (setback), or ice forms on the road (difficulty). Under such trying conditions, doubt can interfere with effective thinking, planning, and decision making to cause anxiety, confusion, arousal, tension, and distress that can spiral performance toward disaster. Of course, surprises, setbacks, and difficulties may not produce poor performance, just as skill, talent, and ability may not produce excellent performance. Rather, extent of self-efficacy (vs. self-doubt) is the motivational variable that determines the extent to which a performer copes well (vs. poorly) when her skills and abilities are stressed.

Consider the example of trying to present oneself as socially competent as during a job interview, auditioning for a part in a play, or going on a first date. In a self-efficacy analysis, the skills involved in interviewing, auditioning, and dating and the situational demands placed on the performer are complex and multidimensional. The following list describes an adolescent on a first date (Rose & Frieze, 1989) by listing some task demands (left) and needed coping skills (right).

| Dating Demand | Dating Skill |
|---|--------------------|
| Ask for a date | Assertiveness |
| Make a plan to do something interesting | Creativity |
| Arrive on time at date's house | Punctuality |
| Relate warmly to parents or roommates | Sociability |
| Joke, laugh, and talk | Sense of humor |
| Impress date | Salesmanship |
| Be polite | Social etiquette |
| Understand how other feels | Empathy |
| Be responsive to the other's needs | Perspective taking |
| Kiss goodnight | Being romantic |

As the adolescent contemplates the date, he asks what specific events will take place. What skills will be needed to perform well? If things go unexpectedly wrong, can he make the necessary corrective adjustments? How does he expect to feel during the date and during each specific event? In this hypothetical situation, the adolescent expects that the overall task at hand will require a dozen or so different skills, such as assertiveness, sociability, and so on. The adolescent also has some expectation of how effectively he can execute each of these skills, and those expectancies might range from woefully incompetent to highly competent. These expectations represent the heart and soul of individual efficacy expectations, as well as one's more general sense of self-efficacy toward the situation at hand: How effective will I be when the situation calls for me to be assertive? Will I

feel confidence or doubt? Are my skills hardy enough to get the evening back on track if things go wrong?

Once we know the adolescent's expectancies of efficacy versus doubt in coping with these task demands, we can predict (1) his motivation to go on the date versus avoid it and (2) how well he will perform once on the date.

Sources of Self-Efficacy

Self-efficacy beliefs do not just occur out of the blue; they have historical roots. Self-efficacy beliefs arise from (1) one's personal history in trying to execute that particular behavior or way of coping in the past, (2) observations of similar others who also try to execute that behavior, (3) verbal persuasions (pep talks) from others, and (4) physiological states such as a racing versus a calm heart.

Personal Behavior History

The extent to which a person believes she can competently enact a particular course of action stems from her personal history of trying to enact that course of action in the past (Bandura, 1986, 1997; Bandura, Reese, & Adams, 1982). People learn their current self-efficacy from their interpretations and memories of past attempts to execute the same behavior. Memories and recollections judged as competent raise self-efficacy, whereas memories and recollections judged as incompetent lower self-efficacy. For instance, as a child prepares to ride a bicycle, her personal history of being able to actually carry out the cycling on past occasions functions as firsthand information about self-efficacy in the present encounter. Once one's personal behavior history has produced a strong sense of efficacy, an occasional incompetent enactment will not lower self-efficacy much (or an occasional competent enactment will not raise a strong sense of inefficacy much). If the performer is less experienced (i.e., lacks a behavioral history), however, each new competent or incompetent enactment will rather substantially inform future efficacy. This is an important point in teaching and mentoring situations in which learners are trying out new behaviors and new activities. Of the four sources of self-efficacy, personal behavior history is the most influential (Bandura, 1986).

Vicarious Experience

Vicarious experience involves observing a model enact the same course of action the performer is about to enact (e.g., "You go first, I'll watch"). Seeing others perform masterfully raises the observer's own sense of efficacy (Bandura, Adams, Hardy, & Howells, 1980; Kazdin, 1979). This is so because seeing similar others perform the same behavior initiates a social comparison process (e.g., "If they can do it, so can I"). But vicarious experience works the other way as well, because observing others perform the same behavior clumsily lowers our own sense of efficacy (e.g., "If they can't do it, what makes me think I can?"; Brown & Inouye, 1978). The extent to which a model's enactment affects our own efficacy depends on two factors. First, the greater the similarity between the model and the observer, the greater the impact the model's behavior will have on the observer's own efficacy forecast (Schunk, 1989b). Second, the less experienced the observer is at the behavior (a novice), the greater the impact of the vicarious experience (Schunk, 1989a). Thus, vicarious experience is a potent source of efficacy for relatively inexperienced observers who watch similar others perform.

Verbal Persuasion

Coaches, parents, teachers, employers, therapists, peers, spouses, friends, audiences, clergy, authors of self-help books, infomercials, inspirational posters, happy-face stickers, and songs on the radio often attempt to convince us that we can competently execute a given action—despite our entrenched inefficacy—if we will just try (e.g., "You can do it!"). When effective, pep talks persuade the performer to focus more on personal strengths and potentials and less on personal weaknesses

and deficiencies. Pep talks shift a performer's attention from sources of inefficacy to sources of efficacy. But verbal persuasion goes only so far if it is contradicted by actual experience (Schunk, 1995). Its effectiveness is limited by the boundaries of the possible (in the mind of the performer) and depends on the credibility, expertise, and trustworthiness of the persuader. Individuals also give themselves pep talks, usually in the form of self-instruction, that can boost efficacy, at least for a little while (Schunk & Cox, 1986). Verbal persuasion works to the extent that it provides the performer with enough of a temporary efficacy boost to generate the motivation necessary for another try (Schunk, 1991).

Physiological State

Fatigue, pain, muscle tension, mental confusion, and trembling hands are physiological signals that the demands of the task currently exceed the performer's capacity to cope with it (Taylor et al., 1985). An abnormal physiological state is a private, yet attention getting, message that signals inefficacy. An absence of tension, fear, anxiety, and stress, on the other hand, heightens efficacy by providing firsthand bodily feedback that one can indeed cope adequately with task demands (Bandura & Adams, 1977). The causal direction between efficacy and physiological activity is bidirectional: Inefficacy heightens arousal, and heightened arousal feeds back to fuel perceived inefficacy (Bandura Cioffi, Taylor, & Brouillard, 1988). Physiological information communicates efficacy information most when initial efficacy is uncertain (one is performing a task for the first time). When efficacy is relatively assured, people sometimes discount, or even reinterpret, their physiological cues as a positive source of efficacy, as in "I'm pumped up for this" (Carver & Blaney, 1977).

For a concrete illustration of these four sources of efficacy, consider the child at the county swimming pool waiting her turn in line to jump off the high diving board. How eager (motivated) she will be to do so depends on how well she has been able to negotiate the jump in the past, how well or ineptly the divers in the line before her are able to dive, the conversation of encouragement versus teasing she hears from her friend standing in line with her, and the bodily message of panic versus "cool, calm, and collected" she feels as she stands 6 feet above the water looking down. By itself, no single source of information determines her efficacy forecasts. Instead, through reflective thought, she selects information to attend to, weighs the importance of each, and eventually integrates the multiple (and sometimes contradictory) sources of information into an overall self-efficacy judgment (Bandura, 1997).

While integrating these multiple sources of self-efficacy information into a single judgment is a complex process, the first two sources—personal behavior history and vicarious experience—are generally most determinative (Schunk, 1989b). The relative potency of the different sources of efficacy information is important because of its implications for therapeutic strategies for designing motivational interventions for persons with low self-efficacy beliefs (e.g., Ozer & Bandura, 1990). Personal behavior history and vicarious experience are promising therapeutic possibilities, while verbal persuasion and regulating physiological states serve as supplemental possibilities.

Skill or Self-Efficacy: Chicken or the Egg?

Self-efficacy beliefs rise and fall with changes in personal behavior history, vicarious experience, verbal persuasion, and physiological state. These changes in self-efficacy, in turn, predict changes in skillful coping. But there is a bit of a chicken-and-egg problem within self-efficacy—namely, does skilled performance (e.g., personal behavior history) increase self-efficacy, does self-efficacy increase skilled performance, or do both of these effects occur? Skilled performance clearly predicts longitudinal changes in self-efficacy beliefs (Bandura, 1997), so the key or controversial question is whether self-efficacy predicts longitudinal changes in skilled performance. While some research suggests that changes in self-efficacy cause later changes in skilled performance (Caprara, Barbaranelli, Steca, & Malone, 2006), other research shows that it does not (Stein & Wang, 1988), or does so only

mildly (Holzberger, Philipp, & Kunter, 2013). The conclusion seems to be that both effects exist, although the effect that skilled performance has on self-efficacy is stronger than is the effect that self-efficacy has on skilled performance.

Self-Efficacy Effects on Behavior

Once formed, self-efficacy beliefs contribute to the quality of human functioning in multiple ways (Bandura, 1986, 1997). Generally speaking, the more people expect that they can adequately perform an action, the more willing they are to put forth effort and persist in facing difficulties (Bandura, 1989; Bandura & Cervone, 1983; Weinberg, Gould, & Jackson, 1979). In contrast, when people expect that they cannot adequately perform the required task, they are not willing to engage in activities requiring such behavior. Instead, they slacken their effort, prematurely settle for mediocre outcomes, and quit in the face of obstacles (Bandura, 1989). More specifically, self-efficacy beliefs affect (1) the choice of activities and selection of environments, (2) the extent of effort and persistence put forth during performance, (3) the quality of thinking and decision making during performance, and (4) emotional reactions, especially those related to stress and anxiety. The four sources of efficacy and the four effects of strong versus weak self-efficacy beliefs are organized in summary form in Figure 10.4.

Choice: Selection of Activities and Environments

People continually make choices about what activities to pursue and which environments to spend time in. In general, people seek out and approach with excitement those activities and situations that they feel capable of adjusting to or handling, while people shun and actively avoid those activities and situations that they see as likely to overwhelm their coping capacities (Bandura, 1977, 1989). In a self-efficacy analysis, a person will often choose to avoid tasks and environments as a self-protective act to guard against the possibility of being overwhelmed by demands and challenges. If the student expects a math class or a foreign language class to be overwhelming, confusing, and frustrating, then doubt overwhelms efficacy and produces an avoidance decision, such as withdrawing from class discussions or not enrolling in the class in the first place. The same doubt-plagued avoidance choices apply to social opportunities, such as dating, dancing, participating in sports, selecting (or avoiding) a particular musical instrument, and career paths pursued and shunned.

Doubt-plagued avoidance choices exert a profound and detrimental effect on a person's long-term development (Bandura, 1986). Weak self-efficacy beliefs set the stage for people to

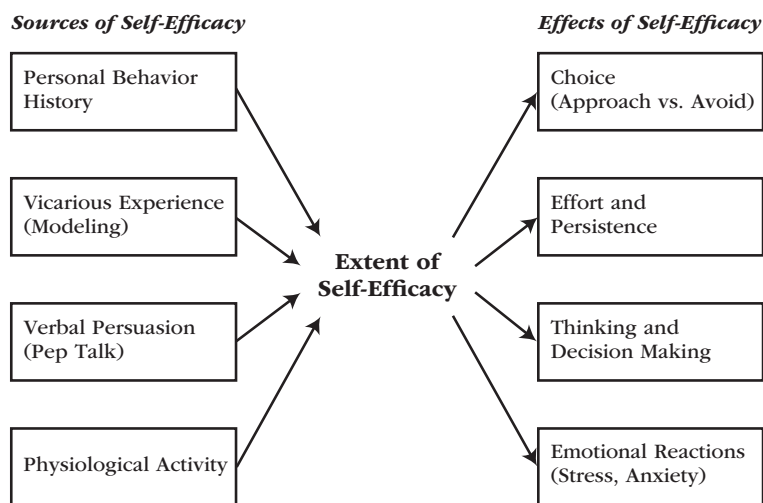


Figure 10.4 Sources and Effects of Self-Efficacy Beliefs

shun activities and therefore contribute to their own arrested developmental potentials (Holahan & Holahan, 1987). When people shun an activity out of doubt over personal competence, they participate in the self-destructive process of retarding their own development. If doubt leads people to avoid taking a foreign language class today, then their future likely involves less travel, fewer interactions with international students, narrower culinary preferences, stronger nationalistic beliefs, and so on. Furthermore, the more they avoid such activities, the more entrenched self-doubt becomes because doubters never get the chance to prove themselves wrong and eliminate opportunities to observe expert models or receive instruction. Such a pattern of avoidance progressively narrows people's ranges of activities and settings (Bandura, 1982; Betz & Hackett, 1986; Hackett, 1985).

Effort and Persistence

As people perform, self-efficacy beliefs influence how much effort they exert as well as how long they put forth that effort in the face of adversity (Bandura, 1989). Strong self-efficacy beliefs produce persistent coping efforts aimed at overcoming setbacks and difficulties (Salomon, 1984). Doubt, on the other hand, leads people to slacken their efforts when they encounter difficulties and perhaps give up altogether (Bandura & Cervone, 1983; Weinberg Gould, & Jackson, 1979). Self-doubt also leads performers to settle prematurely on mediocre solutions.

In trying to master complex activities, learning is always fraught with difficulties, obstacles, setbacks, frustrations, rejections, and inequalities, at least to a degree. Self-efficacy plays a pivotal role in facilitating effort and persistence, not because it silences doubt following failure and rejection (because these are expected, normal emotional reactions). Instead, self-efficacy leads to a *quick recovery* of self-assurance following such setbacks (Bandura, 1986).

Using examples of persistent writers, scientists, and athletes, Albert Bandura argues that it is the resiliency of self-efficacy in the face of being pounded by uninterrupted failure that provides the motivational support necessary for continuing the persistent effort needed for competent functioning and the development of expertise (Bandura, 1989). To illustrate this point, Bandura and other self-efficacy researchers quote stories of resiliency from John White's (1978) book *Rejection*. For example, Michael Jordan was cut from his high school basketball team in the 10th grade, Walt Disney was fired by a newspaper editor who said he "lacked imagination," Decca Records turned down a contract with the Beatles saying "We don't like their sound," and J. K. Rowling was rejected by 12 different publishers before *Harry Potter and the Sorcerer's Stone* became an accepted manuscript.

Thinking and Decision Making

People who believe strongly in their efficacy for solving problems remain remarkably efficient in their analytic thinking during stressful episodes, whereas people who doubt their problem-solving capacities think erratically (Bandura & Wood, 1989; Wood & Bandura, 1989) and show both confusion and negative thinking (Bandura, 1983; Wood & Bandura, 1989). To perform their best, people must first use memories of past events to predict the most effective course of action and analyze feedback to assess and to reassess the merit of their plans and strategies. A strong sense of efficacy allows the performer to remain task focused, even in the face of situational stress and problem-solving dead ends. In contrast, self-doubt distracts decision makers away from such task-focused thinking because attention shifts to the deficiencies of the self and the overwhelming demands of the task. In short, doubt deteriorates, whereas efficacy buffers, the quality of a performer's thinking and decision making during a performance.

Emotionality

Before performers begin an activity, they typically spend time thinking about how they will perform. Performers with a strong sense of efficacy attend to the demands and challenges of the task,

visualize competent scenarios for forthcoming behaviors, and exude enthusiasm, optimism, and interest. Performers with a weak sense of efficacy, however, dwell on personal deficiencies, visualize formidable obstacles, and exude pessimism, anxiety, and depression (Bandura, 1986, 1988). Once performance begins and things start to go awry, strong self-efficacy beliefs keep anxiety at bay. People who doubt their efficacy, however, are quickly threatened by difficulties, react to setbacks and negative feedback with distress, and see their attention drift toward personal deficiencies and negative emotionality (and they emotionally “lose it”).

Life brings any number of potentially threatening events (e.g., examinations, public performances, physical and psychological threats), and perceived self-efficacy plays a central role in determining how much stress and anxiety such events bring to any individual performer. Rather than existing as a fixed property of events, “threat” always depends on the relation a person has to the task (Folkman & Lazarus, 1985; Lazarus & Folkman, 1984). Knowing that one’s coping abilities cannot handle an event’s perceived demands conjures up thoughts of disaster, emotional arousal, and feelings of distress and anxiety (Bandura Reese, & Adams, 1982, 1985; Lazarus, 1991a). More optimistically, when people plagued with self-doubt undergo therapy-like conditions to enhance their coping capabilities, the intimidating event that once conjured up such an avalanche of doubt, dread, and distress no longer does so (Bandura & Adams, 1977; Bandura Adams, Hardy, & Howells, 1980; Bandura, Reese, & Adams, 1982; Ozer & Bandura, 1990). As self-efficacy increases, fear and anxiety slip away. Self-efficacy researchers go so far as to say that the root cause of anxiety is low self-efficacy (Bandura, 1983, 1988). Therefore, any increase in efficacy means a corresponding decrease in anxiety.

Learning, Coping, Performing, and Achieving

Self-efficacy beliefs predict people’s learning, coping, performance, and achievement (Bandura, Barbaranelli, Caprara, & Pastorella, 2001; Ozer & Bandura, 1990; Pajares & Graham, 1999; Pietsch, Walker, & Chapman, 2003; Williams & Williams, 2010). The reason why is because self-efficacy facilitates the type of active task involvement that is needed to increase and improve one’s learning, coping, performing, and achieving—namely, approaching rather than avoiding challenges and opportunities, exerting greater rather than lesser effort, persisting in the face of obstacles rather than giving up, thinking clearly on what needs to be done rather than thinking erratically, negatively, and emotionally, and experiencing constructive emotionality such as hope and interest rather than counterproductive emotionality such as fear and anxiety. This is why performance depends on more than only skill. To perform well, one needs both skill and efficacy beliefs.

Empowerment

Two practical points about self-efficacy are important. First, self-efficacy beliefs come from personal behavior history, vicarious experiences, verbal persuasion, and physiological states (Figure 10.4). This means high self-efficacy beliefs can be acquired and changed. Second, the level of self-efficacy predicts ways of coping that can be called “competent functioning” or “personal empowerment.” This means that therapeutically enhanced self-efficacy beliefs can improve people’s lives.

Empowerment involves possessing the knowledge, skills, and beliefs that allow people to exert control over their lives. One example of “self-efficacy as empowerment” can be found in learning to defend oneself against intimidation and threats from abusive others (Ozer & Bandura, 1990). When threatened, people typically feel anxious, stressed, vulnerable, at risk, and in danger. To empower oneself, people need more than just skills and the knowledge of what to do. People also need self-efficacy beliefs so they can (1) translate their knowledge and skills into effective performance when threatened and (2) exert control over intrusive negative thoughts.

In one study, researchers trained a group of women over a five-week period in self-defense and emotion-management skills. The women felt very afraid for their safety when going out at night because they feared being overpowered by the threats and dangers of night life in San Francisco. The researchers first asked the women to watch expert models defend themselves against assailants (using vicarious experience) and then asked the women to master the modeled behavior while hearing support and encouragement from peers (using verbal persuasion) during simulated attacks (Ozer & Bandura, 1990). The women then enacted the behaviors they had seen modeled and received coaching and corrective feedback as needed (personal behavior history). With each successive week, the women's self-efficacy to control interpersonal threats and to regulate intrusive thinking soared. Once empowered, the women felt less vulnerable and began to engage in activities that were once thought to be too risky (e.g., evening recreation, outdoor exercise). Empowerment occurred as efficacy and engagement replaced doubt and avoidance.

Empowering People: Mastery Modeling Program

A formal program to empower people through self-efficacy training is to employ a mastery modeling program. In a mastery modeling program, an expert in the skill area works with a group of relative novices to show them how to cope with an otherwise fearsome situation. In the aforementioned example, professionals empowered women through self-defense skills. In the school, teachers might use a mastery modeling program to empower children during reading, computers, or public speaking. On the athletic field, coaches might empower athletes with defensive skills and resilient confidence to cope with whatever challenges next week's opponent might bring.

In a mastery modeling program, the expert model walks the group of novices through the following seven steps:

1. Expert identifies the specific skills necessary for effective coping (as in the earlier dating example) and then measures the novices' efficacy expectation on each component skill.
2. Expert models each component skill, emphasizing the novices' most worrisome skill areas.
3. Novices emulate each modeled skill. Expert provides guidance and corrective feedback, as needed.
4. Novices integrate the individual skills into an overall simulated performance. Expert introduces only mild obstacles and helps novices integrate the different skill components into a coherent overall performance.
5. Novices participate in cooperative learning groups. One person gives a simulated performance while peers watch. As they watch, peers provide encouragement and tips. Each person takes a turn until everyone has completed the simulated performance multiple times.
6. Novices perform individually in a realistic situation that features numerous difficulties, surprises, and obstacles, while the expert provides modeling and corrective feedback.
7. Expert models confident demeanor and arousal-regulating techniques throughout the mentoring.

The mastery modeling program is a formal procedure to utilize the four sources of self-efficacy as a means to advance from anxious novices to confident masters. By having novices perform each skill and receive corrective feedback from the expert, the novice builds efficacy through a personal behavior history (step 3). By watching the expert perform (step 2) and by watching similar peers perform (step 5), the novice builds efficacy through vicarious experience. By hearing peers' encouragement and tips (step 5), the novice builds efficacy through verbal persuasion. By observing and imitating the expert's ways of handling performance-debilitating arousal (step 7), the novice builds efficacy through physiological calmness. The end result is to advance a novice who is easily

overwhelmed by a seemingly unpredictable situation to a highly skilled, highly confident copier who is ready to handle whatever the world throws his or her way.

MASTERY BELIEFS

Mastery beliefs reflect the extent of perceived control one has over attaining desirable outcomes and preventing aversive ones (Peterson Maier, & Seligman, 1993). When personal control beliefs are strong and resilient, the individual perceives a strong causal link between actions and favorable outcomes.

Ways of Coping

How much mastery over outcomes one possesses depends on how one copes with the situation at hand. Table 10.1 lists many possible ways of coping (Skinner, Edge, Altman, & Sherwood, 2003). People can cope by taking proactive or reactive action, by approaching the problem and taking action or by avoiding it and walking away, singly or in the context of a group or an organization, by focusing on the problem to be solved or by focusing on regulating their emotions, and by additional ways of coping, as illustrated in the table.

Mastery versus Helplessness

Failure means the person was not able to gain control over a desired outcome. People cope with failure in different ways. A mastery motivational orientation refers to a hardy, resistant portrayal of the self during encounters of failure. With a mastery motivational orientation, the person responds to failure by remaining task-oriented and focused on achieving mastery in spite of difficulties and setbacks (Diener & Dweck, 1978, 1980). On the other hand, a helpless motivational orientation refers to a fragile view of the self during encounters of failure. With a helpless motivational orientation, the person responds to failure by giving up and withdrawing, acting as if the situation were out of his or her control (Dweck, 1975; Dweck & Repucci, 1973).

Most people perform well and stay task focused when working on easy problems and when performing well. However, when tasks turn difficult and challenging—when outcomes are hard to control, the motivational significance of mastery versus helplessness becomes clear. Mastery-oriented persons seize challenges and become energized by setbacks. Helpless-oriented persons shy away from challenges, fall apart in the face of setbacks, and begin to question and then outright doubt their ability. On those occasions in which success feedback slips into failure feedback, mastery-oriented

Table 10.1 Ways of Coping

| Way of Coping | Illustration |
|--|---|
| Approach versus Avoidance | Taking action by moving toward and interacting with the problem versus walking away from the problem. |
| Social versus Solitary | Taking action with a team of others versus acting alone. |
| Proactive versus Reactive | Taking action to prevent a problem before versus after it occurs. |
| Direct versus Indirect | Taking action oneself versus enlisting the help of an intermediary who takes the direct action. |
| Control versus Escape | Take-charge approach versus staying clear of the situation. |
| Alloplastic versus Autoplastic | Taking action to change the problem versus taking action to change oneself. |
| Problem Focused versus Emotion Focused | Taking action to manage the problem causing the stress versus regulating one's emotional response to the problem. |

individuals increase their efforts and change their strategies (Diener & Dweck, 1978, 1980). Under these same conditions, helpless-oriented individuals decrease their efforts and begin to condemn their abilities and lose hope for any future successes (Dweck, 1975; Dweck & Repucci, 1973). In sum, during failure feedback, helpless-oriented people focus on why they are failing (low ability), whereas mastery-oriented people focus on what is to be done to remedy it (effort, strategy; Diener & Dweck, 1978).

The different reactions to failure feedback for mastery-oriented and failure-oriented performers emanate from a different meaning of failure (Dweck, 1999). Mastery-oriented individuals do not see failure as an indictment of the self. Instead, these individuals, during setbacks and failures, say things like, “The harder it gets, the harder I need to try” and “I love a challenge.” Failure feedback is, generally speaking, just information. In fact, failure can be constructive information (Clifford, 1984). Failure feedback suggests that one needs more effort, better strategies, and more resources. Mastery-oriented individuals accept this task-generated information, make the necessary adjustments (more effort, better strategies, more resources), and they therefore actually perform better and more enthusiastically in the face of failure. Helpless-oriented individuals see failure as an indictment of the self. They see failure as a sign of personal inadequacy, one that in turn leads them toward a state of despair.

Perhaps the reader might think the term “helpless” is a bit strong, but research by Carol Dweck (1975) suggests that it is not. When failure rears its ugly head, helpless-oriented people say things like, “I’m no good at things like this” and “I guess I’m not very smart.” In other words, they denigrate their abilities and even their self-worth (Diener & Dweck, 1978). Their emotions quickly turn negative, and they start to show unusual ways for dealing with their rising anxiety and doubt, such as acting silly or trying to change the task or its rules (Diener & Dweck, 1978). Their problem-solving strategies collapse into simply making wild guesses or picking answers for random reasons. The self-denigration, negative mood, and immature strategies signal the presence of helplessness, but the telltale sign of helplessness is how *quickly* and how *emphatically* the performer gives up (Dweck, 1999).

LEARNED HELPLESSNESS

Efficacy expectancies are the building blocks of self-efficacy, and outcome expectancies are the building blocks of learned helplessness. When people engage in a task, some outcome is typically at stake. During such task engagement, people make a subjective forecast of how controllable versus uncontrollable that outcome is. When people expect desired outcomes (e.g., making friends, getting a job) or undesired outcomes (e.g., contracting an illness, being fired from a job) are independent of their behavior, they develop a “learned helplessness” over attaining or preventing those outcomes. Learned helplessness is the psychological state that results when an individual expects that life’s outcomes are uncontrollable (Mikulincer, 1994; Seligman, 1975).

For controllable outcomes, a one-to-one relation exists between behavior (what a person does) and outcomes (what happens to that person). For uncontrollable outcomes, a random relationship exists between behavior and outcomes (e.g., “My behavior has little effect on what happens to me”). Boiled down to its essentials, learned helplessness can be understood by the strength of the perceived relation between the person’s behavior and the person’s fate, or outcome, as represented in Figure 10.5. The relation between one’s behavior and one’s outcomes can be very high, as represented by a solid and bold arrow between what one does and what outcomes occur. The bold solid arrow between behavior and outcomes graphically represents a mastery orientation. In contrast, the relation between one’s behavior and one’s outcomes can be nonexistent, as represented by the dashed and thin arrow between what one does and what outcomes occur. The thin dashed arrow between behavior and outcomes graphically represents a learned helplessness orientation. With learned helplessness, one’s behavior exerts little or no influence over one’s outcomes. Instead, other factors outside one’s

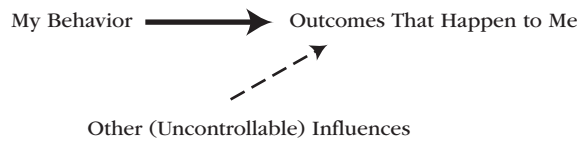
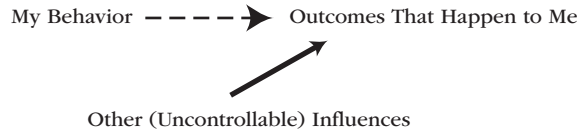
Mastery Orientation*Learned Helplessness*

Figure 10.5 Illustration of the Relationship between Behavior and Outcomes, According to a Mastery Orientation and According to Learned Helplessness

control determine the outcomes, as represented by the bold solid arrow between outside influences and one's outcomes. For example, a job applicant experiencing learned helplessness might perceive that even his efficaciously enacted behaviors during the job interview (acting professionally, demonstrating skills, answering questions well) have nothing to do with whether he is hired by the company. He may perceive that factors outside his control (e.g., poor economy, "who you know," skin color) mostly or even fully determine whether he is hired. Because his behaviors do not control the outcome and because outside, uncontrollable influences do, then the job applicant presumes that he is helpless to influence the hiring decision.

Learning Helplessness

Helplessness is learned. Consider the following experiment with three groups of dogs that were administered either (1) inescapable shock, (2) escapable shock, or (3) no shock (control group) (Seligman & Maier, 1967). Dogs in the two shock groups were placed into a sling and given mild five-second electric shocks once a day for 64 consecutive days.

In the *inescapable shock* group, the shocks occurred randomly, and no response could terminate the shock. Whether the dog barked, howled, or thrashed about frantically, the shock continued for its full five seconds. In other words, the shock was inescapable and uncontrollable.

In the *escapable shock* group, the dogs could terminate the shock. If the dog pressed a button mounted on the wall (placed just in front of their noses), the shock stopped. The dogs therefore had a response available to escape the shock—push the button. They had to learn the response, but the outcome (shock) was escapable and controllable.

In the *no-shock control* group, dogs were placed into a sling just like the dogs in the other two conditions were, but they received no shocks.

Exposure to inescapable shock, escapable shock, or no shock constituted the first phase—the learning phase—of the two-phase experiment. In the second phase, the dogs in each group were all treated the same. Each dog was placed into a shuttle box in which its two compartments were separated by a wall partition of elbow height. The two compartments were the same size and similar in most respects, except the first compartment had a grid floor through which a mild electrical shock could be delivered while the second compartment was safe from shock. On each trial during phase 2, the dogs were placed into the grid floor compartment and a mild shock was delivered. The onset of this shock was always preceded by a signal (a dimming of the light on the wall). After the lights

Table 10.2 Results of a Prototypical Learned Helplessness Study

| Experimental condition | Phase 1 | Phase 2 | Results |
|------------------------|--|-----------------------------|---|
| Inescapable Shock | Received shock, no coping response could terminate the shock | Received an escapable shock | Failed to escape from the shock |
| Escapable Shock | Received shock, pressing nose against button could terminate shock | Received an escapable shock | Quickly learned to escape shock by jumping over barrier |
| Control, No Shock | Received no shocks | Received an escapable shock | Quickly learned to escape shock by jumping over barrier |

were dimmed, the electric shock followed 10 seconds thereafter. If the dog jumped over the partition, it escaped the shock. So, for all the dogs, the shock was both predictable and preventable (i.e., controllable). If the dog failed to jump over the partition within 10 seconds, however, the electric shock started and continued for one minute.

A summary of the study's procedure and results appears in Table 10.2 (Seligman & Maier, 1967). The dogs in both the escapable shock and no shock groups quickly learned to escape the shock in the shuttle box. When shocked, these dogs ran about frantically at first and rather accidentally climbed, fell, scrambled, or jumped over the barrier. That is, through trial and error and through the sheer grit of determination, the dogs learned that if they somehow overstepped the barrier, they could escape the shock. After only a few trials, these dogs jumped over the barrier to safety as soon as the warning light dimmed. They learned mastery over very stressful conditions. These dogs learned how to control (prevent) the shock.

The dogs in the inescapable shock group behaved very differently. When shocked, these dogs at first behaved as did the other dogs by running about frantically and howling. However, unlike the dogs in the other two groups, these dogs soon stopped running around and, instead, whimpered until the trial (and shock) terminated. After only a few trials, these dogs gave up trying to escape and passively accepted the shock. On subsequent trials, the dogs failed to make any escape movements at all. What these dogs learned in the sling—that the onset, duration, intensity, and termination of the shock (in phase 1) were all beyond their control—had a carryover effect in the shuttle box: The dogs perceived that escape was beyond their control. These dogs learned helplessness in the face of very stressful conditions.

The startling generalization that emerged from this study is that whenever animals are placed in a situation in which they perceive they have little or no control, they develop the expectation that their future actions will have little or no effect on what happens to them. This learned expectation that one's voluntary behavior will not affect desired outcomes is the heart of learned helplessness.

Application to Humans

The early experiments on learned helplessness used animals as research participants mostly because the uncontrollable events used in these studies included traumatic events, such as electric shock. Later studies found ways to test the extent to which helplessness applied to humans (Diener & Dweck, 1978, 1980; Dweck, 1975; Hiroto, 1974; Hiroto & Seligman, 1975; Mikulincer, 1994; Peterson Maier, & Seligman, 1993). In Donald Hiroto's (1974) experiment, irritating noise constituted the aversive, traumatic stimulus event. The results with humans paralleled the results with dogs (see Table 10.2) in that participants in the inescapable noise group sat passively and were unwilling to

attempt an escape from the noise, whereas participants in the escapable and no-noise groups learned quickly to escape the noise (by operating a lever). Humans too learned helplessness.

Components

Learned helplessness theory features three components: contingency, cognition, and behavior (Peterson Maier, & Seligman, 1993). Collectively, these three components explain the motivational dynamics that unfold as experience teaches people to expect that the events in their lives will be beyond their personal control.

Contingency

Contingency refers to the objective relation between a person's behavior and the environment's outcomes. The environment can be the home, classroom, workplace, sports field, hospital, interpersonal relationship, psychology laboratory, and so on. Contingency exists on a continuum that ranges from outcomes that occur on a random basis (i.e., uncontrollable outcomes) to outcomes that occur in perfect synchronization with a person's voluntary behavior (i.e., controllable outcomes). That is, how contingent any one environment is can be scored on a continuum that ranges from 0 (uncontrollable outcomes) to 1 (controllable outcomes). Take a moment to ask yourself what your own experiences have taught you about contingency in the following situations: getting a traffic ticket, getting a job in your hometown, winning a tennis match against a rival, winning the lottery, catching the flu, getting cancer from smoking cigarettes, gaining weight over the holidays, and graduating from college. To characterize the contingency inherent in each of these situations, ask yourself the following: "To what extent does the average person's voluntary, strategic behavior influence the outcomes that occur in these settings?" That is, how much influence does voluntary coping behavior (from people in general, not from you in particular) exert on avoiding a traffic ticket, avoiding the flu, getting a job, winning a contest, winning the lottery, escaping cancer, preventing weight gain, and obtaining a college degree?

Cognition

A good deal of cognitive interpretation takes place between the actual, objective environmental contingencies that exist in the world and a person's subjective understanding of personal control in such environments. Mental events distort the relationship between objective contingencies and subjective control, and these events therefore create some margin of error between objective truth and subjective understanding. To illustrate the importance of cognition, ask two people who experience the same environmental contingency why they avoided a traffic ticket, avoided the flu, got a job, and so on. People's outcome beliefs (and hence their replies to your question) stem not only from the objective information about the world (i.e., contingency) but also from each person's unique biases, attributions, and expectancies. Hence, to understand learned helplessness, we need to pay attention not only to objective environmental contingencies (how controllable outcomes really are) but also to subjective personal control beliefs (how controllable the person thinks those outcomes are).

Behavior

Just as contingency exists on a continuum, coping behavior to attain or to prevent outcomes exists on a continuum. In a traumatic event, for instance, people's voluntary coping behavior varies from very passive to very active. Coping responses can be lethargic and passive, or they can be active and assertive. Lethargy, passivity, and giving up typify a listless, demoralized effort that characterizes the behavior of the helpless individual (recall the passive behavior of the dogs in the inescapable shock group). Alertness, activity, and assertiveness characterize people who are not helpless (who have

some expectation of control). To illustrate passive behavior as a component of learned helplessness, consider once again the situations listed earlier (driving on the highway, job hunting, competing against an opponent). Consider your own passive-to-active coping behaviors in the face of such situations and potential outcomes. The job hunter who quits searching for online advertisements, revising her résumé, telephoning prospective employers, and rising early and enthusiastically in the morning to look for a job manifests the listless, demoralized coping behavior that characterizes helplessness.

Helplessness Effects

Learned helplessness occurs when people expect that their voluntary behavior will produce little or no effect on the outcomes they strive to attain or avoid. Once it occurs, it leaves three reliable deficits in its wake: motivational, learning, and emotional (Alloy & Seligman, 1979).

Motivational Deficits

Motivational deficits consist of a decreased willingness to try. Motivational deficits become apparent when a person's willingness to emit voluntary coping responses decreases or disappears altogether. Typically, when people care about an outcome and when the environment is at least somewhat responsive in delivering those outcomes, they act assertively in bringing about those outcomes. For instance, at the beginning of a season, an athlete might practice diligently and persistently, but after a series of athletic defeats (victory becomes an uncontrollable outcome), willingness to practice wanes. The athlete begins to wonder if the time spent practicing is really worth it. In the aversive-noise learned helplessness experiment described earlier, the experimenters asked participants why they did not use the lever to try to terminate the unpleasant noise (Thorton & Jacobs, 1971). Approximately 60 percent of the participants (from the inescapable noise group) reported that they felt little control over the noise so did not see the point in trying to terminate the noise, saying "Why try?" This quote ("Why try?") characterizes the motivational deficit in learned helplessness.

Learning Deficits

Learning deficits consist of an acquired pessimistic mindset that interferes with one's ability to learn new response–outcome contingencies. Over time, exposure to uncontrollable environments cultivates an expectancy in which people believe that outcomes are generally independent of their actions. Once expectancies take on a pessimistic tone, the person has a very difficult time learning (or, more precisely, relearning) that a new response can affect outcomes. This pessimistic mindset essentially interferes with, or retards, the learning of future response–outcome contingencies (Alloy & Seligman, 1979).

When students first learn the results from learned helplessness experiments, they frequently wonder why dogs in the inescapable groups do not learn in the second phase of the experiment that jumping over the barrier terminates the shock. Like talking to a laid-off worker who has given up applying for a new job, one wants to yell (to the dog): "Jump! Jump! C'mon boy, just jump!" Consider, however, what the human subjects learned during the noise blast study. The first time they heard the noise, they flinched and jumped, and the second time, they manipulated the lever. Perhaps they perceived that on some trials turning their heads or shifting their weight from side to side coincided with the turning off of the noise. But on later trials, they again turned their heads or shifted their weight, but the noise persisted for its programmed five seconds. Gradually, they learned that no response turned off the noise in a reliable way. They tried everything, but nothing worked. Consequently, when they entered the second phase of the experiment with the now-working lever, any positive outcome (turning off the noise) comes across as a "successful accident" and

unworthy of being tried again (as were head turning, lever turning, weight shifting, and so forth in the first phase). Compared to the participants in the escapable noise and control groups who quickly learned to discriminate between responses that worked versus responses that did not work, participants in the inescapable noise groups had an unusually difficult time learning an effective coping response.

Emotional Deficits

Emotional deficits consist of affective disruptions in which lethargic, depressive emotional reactions occur in situations that call for active, assertive emotion. In the face of trauma, the natural and typical response is one of highly mobilized emotion (e.g., fear, anger, assertiveness, frustration). When afraid, people struggle vigorously to overcome, escape, counteract, or do whatever is necessary to cope effectively. Over time, however, an unrelenting onslaught of environmental unresponsiveness leads people to view coping as futile. Once fear-mobilized emotionality is believed to be unproductive, depression-related emotionality takes its place. Once the person becomes convinced that there is nothing that can be done to escape the trauma, the resulting expectation makes energy-mobilizing emotions less likely and makes energy-depleting emotions (e.g., listlessness, apathy, depression) more likely.

Helplessness and Depression

Some clinical psychologists view learned helplessness as a model of naturally occurring unipolar depression (Rosenhan & Seligman, 1984; Seligman, 1975). Learned helplessness and depression are similar in that the same expectations cause both: The individual expects that bad events will occur, and there is nothing he or she can do to prevent their occurrence (Rosenhan & Seligman, 1984). Learned helplessness and depression also share common symptoms (passivity, low self-esteem, loss of appetite) and therapeutic intervention strategies (time, cognitive behavior modification).

Using the learned helplessness model to understand the etiology of unipolar depression touched off a flurry of research that brought both criticism (Costello, 1978; Depue & Monroe, 1978) and support (Seligman, 1975). One of the most exciting findings to emerge was that depressed individuals do sometimes see the events in their lives as less controllable than do individuals who are not depressed. Such a finding led researchers to wonder whether the depressive tendency of individuals to see their worlds as uncontrollable might be the core cause of unipolar depression. Perhaps the root of depression lies in a depressed individual's inability to recognize that he has more control over his life outcomes than he knows. If so, the therapy recommendation would be clear—namely, increase the person's perceived control beliefs.

To test this hypothesis, depressed and nondepressed college students (as assessed by a questionnaire) performed a task in which they pushed a button on some trials and did not push it on other trials (Alloy & Abramson, 1979). With a button push, a green light sometimes came on. The point of the study was for the participant to estimate what proportion of time the green light came on. The experimenters controlled the outcome—whether the light came on and when it came on. For one group, the green light came on 75 percent of the time and only when the button was pressed. This was the high-control group. For a second group, the green light came on when the button was pressed 75 percent of the time, but the light also came on 50 percent of the time when no button was pushed. This was the low-control group. In a final group, the green light came on when the button was pressed 75 percent of the time, but it also came on 75 percent of the time when the participants did not push the button. This was the no-control group (because the light came on at the same rate regardless of the participant's button pressing).

Results were most surprising (see Figure 10.6). Depressed individuals accurately judged how much control they had over each situation, as did nondepressed individuals—except in one condition,

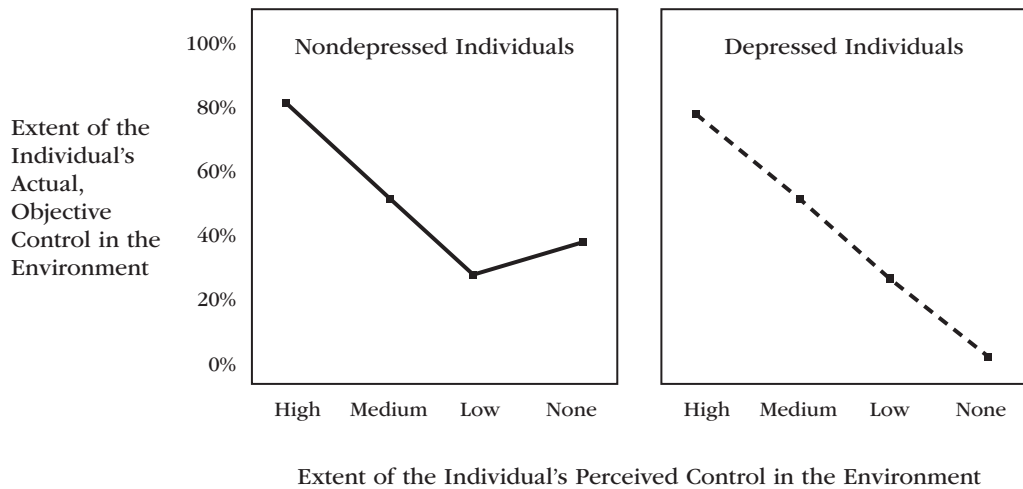


Figure 10.6 Perceived Control Judgments for Depressed and Nondepressed Individuals

namely in the no-control situation (Alloy & Abramson, 1979). The depressed individuals accurately judged that they had no control in this condition (near 0% in the right panel in Figure 10.6). The light came on in a random way, and they knew it. The nondepressed individuals were the ones who misperceived how much control they had—they overestimated their perceived control (near 35% in the left panel in Figure 10.6). The light came on in a random way, but they still believed they were exerting some control over the light.

The most interesting conclusion to draw from Lauren Alloy and Lyn Abramson's (1979, 1982) research is that people with depression are *not* more prone to learned helplessness deficits. Rather, it is the individuals who are not depressed who sometimes believe they have more personal control than they actually have (Taylor & Brown, 1988, 1994). Although the conclusion might sound startling, depressed persons' memories for the positive and negative events in their lives are balanced and equal, whereas the memories of the nondepressed persons harbor biases for recalling more of the positive events (Sanz, 1996). While people do misjudge the control they have over the events in their lives (Abramson & Alloy, 1980; Alloy & Abramson, 1979, 1982; Langer, 1975; Nisbett & Ross, 1980), most of the misjudging is done by nondepressed individuals, not by those who are depressed.

Attributions and Explanatory Style

No motivation theory pursues the "why?" question more than does attribution theory. An attribution is a causal explanation for why a particular success–failure outcome occurred (Weiner, 1985, 1986). After a person succeeds or fails, he or she asks why. Why did I make an A on the test? Why did I lose the contest? Why did I get the job, while she did not? Why did I succeed today on the same task that I failed yesterday? There may be an almost limitless number of possible causal attributions, but when explaining their successes and failures, people tend to rely on a small number of attributions, including effort, ability, strategy, luck, and task difficulty (Weiner, 1986), although other common attributions include intelligence, extent of experience, task enjoyment, or help from others (Shell, Colvin, & Bruning, 1995).

Although many different attributions are possible, all attributions can be placed within a three-dimensional causal structure, as illustrated graphically in Figure 10.7. Dimension 1 is locus, which distinguishes between internal versus external causes of outcomes. Dimension 2 is stability, which

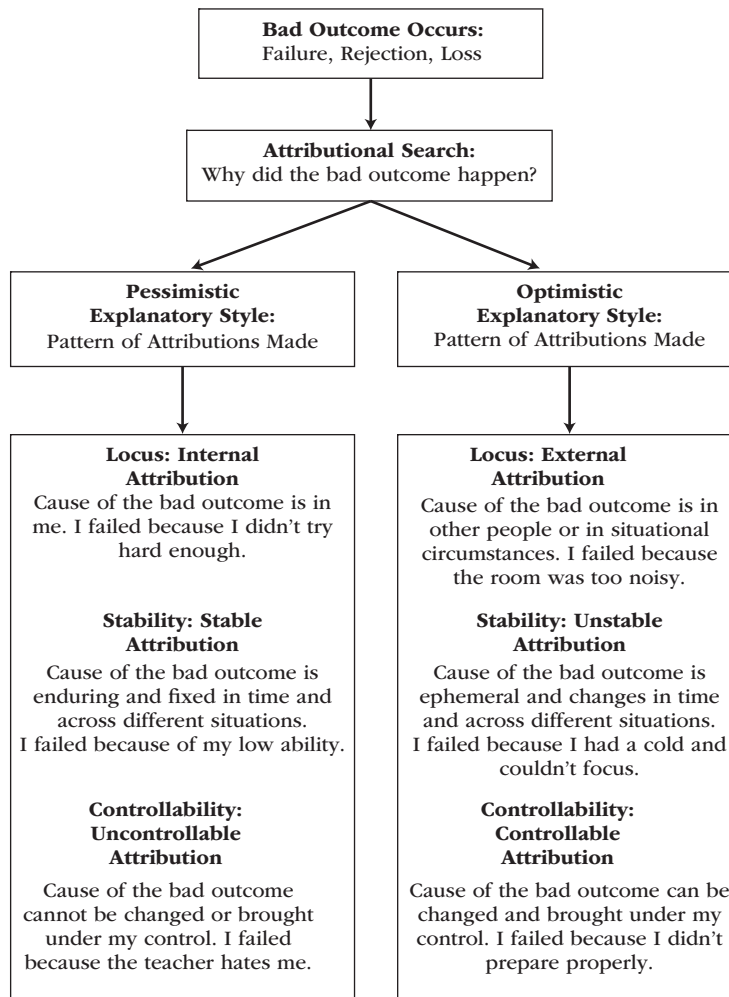


Figure 10.7 Differential Patterns of Attributions Made by Individuals with a Pessimistic versus an Optimistic Explanatory Style

distinguishes between stable and unstable causes. Dimension 3 is controllability, which distinguishes between controllable and uncontrollable causes.

Explanatory style is a relatively stable, cognitively based personality variable that reflects the way people routinely or habitually explain why bad events happen to them (Peterson & Barrett, 1987; Peterson & Park, 1998; Peterson & Seligman, 1984). As shown on the right side of Figure 10.7, an *optimistic explanatory style* manifests itself as the tendency to explain bad events with attributions that are unstable and controllable (e.g., “I lost the contest because of a poor strategy”). As shown on the left side of Figure 10.7, a *pessimistic explanatory style* manifests itself as the tendency to explain bad events with attributions that are stable and uncontrollable (e.g., “I lost the contest because I’m too small to compete”). Figure 10.7 shows that attributional optimists and pessimists use all three dimensions of locus, stability, and controllability, but the two attributional dimensions that best distinguish and define attributional pessimists versus attributional optimists are the two shown at the bottom of the figure: stability and controllability.

Pessimistic Explanatory Style

Academic failures, poor physical health, and subpar job performance are common. They happen to us all. Some of us react to such failures by increasing effort and by trying even harder than before. Others react by giving up. A pessimistic explanatory style predisposes people toward the latter response—giving up—in times of failure and setbacks.

When a student with a pessimistic style faces such educational frustrations and failures (e.g., disappointing grades, unintelligible lectures, confusing textbooks), she typically responds with a passive, fatalistic coping style that leads to decreased effort and deteriorating grades (Peterson & Barrett, 1987). As to job performance, one vocation with more than its share of frustrations, failures, and rejections is selling life insurance because only a small percentage of potential clients ever buy a policy. One pair of researchers assessed life insurance agents' explanatory styles and recorded which agents performed well or poorly and which agents stayed on the job or quit (Seligman & Schulman, 1986). The attributionally pessimistic agents were more likely to quit, and those attributional pessimists who continued to work performed significantly worse than did their more optimistic peers. Overall, a pessimistic explanatory style is associated with academic failure (Peterson & Barrett, 1987), social distress (Sacks & Bugental, 1987), physical illness (Peterson, Seligman, & Vaillant, 1988), impaired job performance (Seligman & Schulman, 1986), depression (Beck, 1976), and even electoral defeat in presidential elections (Zullo, Oettingen, Peterson, & Seligman, 1988).¹

Optimistic Explanatory Style

The illusion of control is an attributional phenomenon that, over time, fosters an optimistic explanatory style. People with an optimistic explanatory style tend to take substantial credit for their successes but accept little or no blame for their failures (e.g., "It's not my fault that I am unemployed, divorced, broke, and had a car accident last month. I am, however, responsible for my team winning the softball game last night."). As you might expect, depressed individuals rarely have an optimistic style and do not show an illusion of control (Alloy & Abramson, 1979, 1982).

Equipped with the self-serving bias of an illusion of control, people with an optimistic explanatory style readily ignore negative self-related information, impose distorting filters on incoming information, and interpret positive and negative outcomes in self-protecting ways. In one sense, an optimistic explanatory style is delusional and associated with a full repertoire of excuses, denials, and self-deceptions (Lazarus, 1983; Sackeim, 1983; Tennen & Affleck, 1987) and narcissism (John & Robins, 1994). Narcissists hold a grandiose sense of self-importance, tend to exaggerate their talents and achievements, and expect to be recognized as superior without commensurate achievements (Kohut, 1971; Millon, 1990; Westen, 1990). But most of us are not narcissists, at least not in the clinical sense of the term. For most of us (depressives and narcissists aside), an optimistic explanatory style is a functional *asset*, because a "mentally healthy person appears to have the enviable capacity to distort reality in a direction that enhances self-esteem, maintains beliefs in personal efficacy, and promotes an optimistic view of the future" (Taylor & Brown, 1988).

¹Care must be exercised in interpreting these correlational data, however, because it certainly could be the case that poor grades, nonresponsive partners, and difficulties at work lead individuals toward adopting a pessimistic style. Thus, one can say that a pessimistic style and mental and physical well-being correlate negatively, but one cannot say definitively that a pessimistic style causes mental and physical distress. Researchers continue to investigate the causal status of a pessimistic explanatory style in coping with life's setbacks (Peterson Maier, & Seligman, 1993).

BOX 10 *Hope*

Question: Why is this information important?

Answer: To appreciate how “hope” reflects high levels of both self-efficacy and mastery beliefs.

Hope emerges out of an integrated two-part cognitive motivational system. When people have both the motivation to pursue their goals and the pathways to achieve those goals, they experience hope (Snyder, 1994; Snyder et al., 1991).

The first part of hope involves high self-efficacy, or the “I can do it” belief in their capacity to accomplish the goals they set for themselves. The second part of hope involves clear pathways, or the belief that one has multiple and controllable pathways to goal attainment. Together, high self-efficacy supports confidence, while mastery beliefs support optimism. Hopeful thinking emerges only out of both agentic and pathways thinking (Snyder, 1994).

Central (and somewhat uniquely) to the experience of hope is pathway thinking, or the belief that one can generate multiple viable routes to desired goals, as people say to themselves, “I’ll find a way to get this done” and “I am not going to let these obstacles stop me” (Snyder, Lapointe, Crowson, & Early, 1998). The athlete preparing for a match or the salesperson trying to close a sale feels hope only when she can still generate at least one, and often more than one, controllable routes to the desired goal (scoring points, making a sale). Having multiple pathways to goal attainment is important because environmental obstacles (opponent’s strategy, competitor’s products) often close off one pathway,

suggesting that, “No, you will not be able to do this.” Closing a pathway to a goal does not diminish hope if the performer has a number of alternative pathways to the goal. All goals have obstacles to their eventual attainment, so hope follows from knowing that one has more pathways to a goal than the environment has obstacles to block them.

In college, high-hope freshmen achieve higher GPAs and are more likely to graduate from college than are low-hope freshmen (Snyder, et al., 2002). During athletic performance, high-hope track athletes outperform low-hope athletes during stressful competitions (even after controlling for ability; Curry et al., 1997). Facing physical illnesses (e.g., chronic pain, blindness), high-hope patients remain appropriately energized and focused on finding pathways to cope with their illness (Elliot, Witty, Herrick, & Hoffman, 1991; Jackson et al., 1998).

As one example of how people with high hope outperform people with low hope, hope-researcher Rick Snyder appeared on the *Good Morning America* TV talk show and asked the host, the weatherman, and the show’s medical expert to engage in the cold pressor task—submerging their right hand into ice water for as long as they could (as told by Lopez, 2006). After a commercial break, the host asked Snyder what this had to do with hope. He explained that he asked the host, the weatherman, and the medical doctor to complete the self-report hope scale prior to the show. He then revealed the rank order of hope scores for the three cast members to show that the hope scores perfectly predicted how long each person was able to withstand the numbing pain before quitting.

REACTANCE THEORY

Why do people sometimes do precisely the opposite of what they are told to do? Why does propaganda backfire? These are the questions posed by reactance theorists (Brehm, 1966; Brehm & Brehm, 1981). Any instruction, any advice, no matter how well intended, has the potential to interfere with people’s expected freedoms in making up their own minds. When children do precisely what they were told not to do, and when the targets of propaganda do the opposite of the source’s intention, each performs a counter maneuver aimed at reestablishing a threatened freedom. The term *reactance* refers to the psychological and behavioral attempt at reestablishing (“reacting” against) a threatened or eliminated freedom.

People experience reactance only if they expect to have control over what happens to them, and they react to a loss of control by becoming more active, even aggressive. Both reactance and learned helplessness theories therefore focus on how people react to uncontrollable outcomes. But the two theories suggest that people act in very different ways. Recognizing this discrepancy, Camille Wortman and Jack Brehm (1975) proposed an integrative model of reactance and learned helplessness.

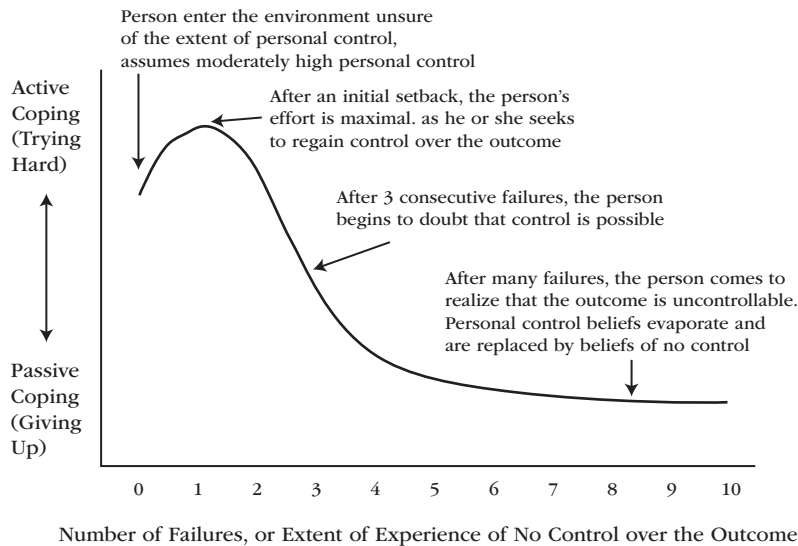


Figure 10.8 Active coping vs. passive coping as a function of number of failures or experiences of no control

If a person expects to be able to control important outcomes, exposure to uncontrollable outcomes arouses reactance (Wortman & Brehm, 1975). Thus, in the first few trials in a learned helplessness experiment, the person should show vigorous opposition to the uncontrollable environment. Recall that the dogs in the inescapable shock group in the learned helplessness studies first howled, kicked, and generally thrashed about for several trials before eventually becoming helpless. These active, assertive coping efforts usually pay off in life as they enable people and animals to reestablish control. Over time, however, if the environment continues to be uncontrollable and unresponsive, then people eventually learn that control attempts are futile. Once a person becomes convinced that reactance behaviors exert little or no influence over the uncontrollable situation, he shows the passivity of helplessness. This process of how people react to expectations of control and how people react to expectations of no control (in terms of active versus passive coping) is summarized in Figure 10.8.

For an illustration of reactance and helplessness responses, consider the following experiment (Mikulincer, 1988). One group of participants worked on one unsolvable problem, a second group worked on a series of four unsolvable problems, and a third group did not work on any problems (control group). Mario Mikulincer (1988) reasoned that exposure to one unsolvable problem would produce reactance and actually improve performance, while repeated exposure to unsolvable problems would produce helplessness and impair performance. In the second phase of the experiment, all participants worked on a set of solvable problems. As predicted, participants given one unsolvable problem performed the best, participants given four unsolvable problems performed the worst, and participants not given any problems performed in between these two groups. This finding provides strong support for the ideas that (1) both reactance and helplessness arise from outcome expectancies; (2) reactance is rooted in perceived control, whereas helplessness is rooted in its absence; (3) a reactance response precedes a helplessness response; and (4) reactance enhances performance, whereas helplessness undermines it.

EXPECTANCY-VALUE MODEL

Not only do expectancies predict effort, persistence, choices, and performance, so do values. Some motivation theories that emphasize expectancies therefore prefer an expectancy-value framework

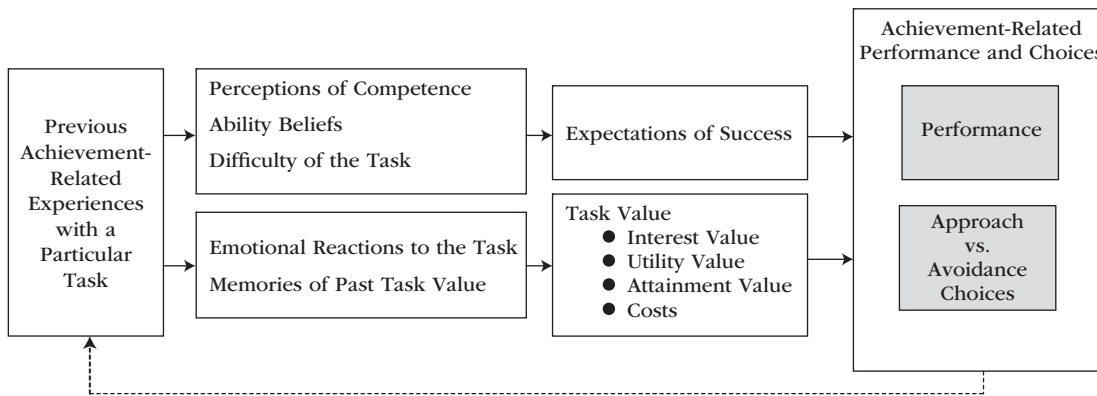


Figure 10.9 Graphical Representation of Expectancy–Value Models of Motivation

over a pure expectancy model, such as the Expectancy–Value model (Eccles & Wigfield, 2002), which appears in graphical form in Figure 10.9. As shown on the right side of Figure 10.9, expectancy and value both predict achievement-related performance and choices, although expectancies more strongly predict performance while values more strongly predict choices (to approach or to avoid the activity) (Eccles, 2009; Eccles et al., 1983; Meece, Wigfield, & Eccles, 1990; Wigfield & Cambria, 2010).

Value

The new concept in Expectancy–Value theories is value. Value is defined as the perceived attractiveness of a task, and value is relative in that the value of one task is compared and contrasted to the value of other possible tasks (e.g., how attractive is this particular motivation course, relative to how attractive are the other courses you are taking—or could have potentially taken—this semester)? Value has four components: interest value (task enjoyment), utility value (usefulness to one’s goals), attainment value (importance to the self), and costs (psychological barriers or negative consequences of task engagement).

Interest value is the feeling of interest-enjoyment the person experiences from performing the task. Utility value is how useful the task is in advancing the person’s current and future goals, such as career or occupational goals. In the language of Chapter 5, interest value is similar to intrinsic motivation, while utility value is similar to identified regulation. Attainment value is the personal importance of doing well on the task for the individual’s identity and self-worth (e.g., “I value marathons and choose to run them because doing so confirms my self-view that I am an athlete”). Some tasks have more value than others because they are more central to how one defines the self. Cost represents the negative aspect of engaging in the task. Engaging in the task, for instance, may take a lot of time and effort, and it may produce feelings of anxiety. Engaging in the task also represents a lost opportunity to engage in alternative tasks (e.g., choosing to read this book is costing your the opportunity to do something else).

Both expectancy and value are mental states. They are cognitive sources of motivation and, like all cognitive motivational theories, are learned from experience. These learning experiences (or antecedents) appear in Figure 10.9 as the left-to-right arrows. But, as shown in the dashed right-to-left line on bottom of the figure, achievement-related performances (success vs. failure) and achievement-related choices (approach vs. avoidance) feedback to provide the individual with information to revise and update his or her future expectancies and future values.

Value Interventions

The more positively one values an activity, the more one performs well and approaches that task. For instance, the more students value the courses they take, the better grades they make and the more likely they are to continue taking future courses in that same area of study (Bong, 2001; Durik, Vida, & Eccles, 2006). Correlational findings such as these lead to the question as to whether or not an intervention designed to boost task value might produce causal gains in performance and approach (choice).

In any value-boosting intervention, one first needs to consider the type of value one seeks to boost. Increasing intrinsic value involves changing the structure of the activity to make it significantly more interesting, as by adding challenge or gamification (Lepper & Henderlong, 2000). Increasing attainment value depends mostly on what is important to the individual's self-definition (which is difficult and perhaps unethical to change). Utility value is a bit different, though. Utility value does not involve changing either the task or the self but, rather, the individual's perception of the importance or perceived usefulness of the activity. For this reason, several "utility value interventions" have been carried out in educational settings to boost students' course achievement, choices, and persistence (Brown et al., 2015; Hulleman & Harackiewicz, 2009; Hulleman et al., 2010; Hulleman, Kosovich, Barron, & Daniel, 2016; Johnson & Sinatra, 2013).

One common utility value intervention strategy is to encourage the student to discover the personal relevance of the course material to their lives, as through a writing prompt. A typical prompt is as follows:

"write 1 to 2 paragraphs about how the material that you have been studying...relates to your life"

(Hulleman Kosovich, Barron, & Daniel, 2016, p. 7).

The key is having students actively work to find value for themselves and to make new relevance- and usefulness-based connections between the self and the course materials—that is, to find, discover, affirm, or perhaps even create for the first time self-generated utility value. Results show that such utility value interventions are generally successful in boosting course value, achievement (grades), and persistence (intentions to take future courses in the same area)—but only for a subset of students—namely, those with poor (low) expectancies (Durik, Hulleman, & Harackiewicz, 2015; Hulleman & Harackiewicz, 2009).

This conditional effect (it works for some, but not for all, students) occurs because students with strong positive expectancies already have high value and do not need the intervention-enabled boost. It is only the students with weak or poor expectancies that need the value boost, because these are the students who tend to *not* see the course as important, useful, or relevant in any way to their lives. Given these findings, utility value interventions have been particularly well suited to first-generation college students and to students (particularly girls and minorities) enrolled in science and STEM courses (Harackiewicz, Rozek, Hulleman, & Hyde, 2012; Harackiewicz et al., 2014; Hulleman & Harackiewicz, 2009).

SUMMARY

The chapter's focus was the motivation to exercise personal control to attain positive outcomes and to prevent negative ones. As people try to control the events in their lives, they acquire two types of expectancies: efficacy and outcome. Efficacy expectations are forecasts about one's capacity to competently enact a particular course of action (e.g., "Can I do it?"). Outcome expectancies are forecasts that a particular outcome will be achieved (or prevented) once executed (e.g., "Will it work?"). Before people are willing to exert coping efforts to exert personal control, both efficacy and outcome expectancies must be reasonably high.

Self-efficacy is the individual's belief that he "has what it takes" to marshal together the resources needed to cope effectively with the changing and potentially overwhelming demands of a situation. Self-efficacy arises from (1) personal behavior history of trying to execute that particular course of action in the past, (2) observations of similar others as they execute the same behavior, (3) verbal persuasions (or pep talks) from others, and (4) physiological states such as an abnormally fast versus calm heartbeat. Once formed, self-efficacy affects the performer's (1) choice of activities and selection of environments (approach vs. avoidance); (2) extent of effort, persistence, and resiliency; (3) the quality or clarity of one's thinking and decision making; and (4) emotional reactions, especially those related to stress and anxiety. Because self-efficacy facilitates approach, effort, persistence, clear thinking, and positive emotionality, people with high self-efficacy generally learn to cope, perform, and achieve better than do people with low self-efficacy. Because self-efficacy beliefs can be acquired, people who participate in therapy-like conditions to build stronger and more resilient self-efficacy beliefs (e.g., a mastery modeling program) are able to increase their sense of domain-specific self-efficacy. In doing so, they overcome their anxiety, doubt, and avoidance.

Mastery expectations and beliefs reflect personal control over success–failure outcomes. When mastery beliefs are strong and resilient, the individual perceives a strong causal link between personal actions and outcomes. When mastery beliefs are weak and fragile, the individual perceives little or no causal link between personal actions and outcomes, which leads to learned helplessness.

Learned helplessness is the psychological state that results when an individual expects that events in his or her life are uncontrollable. Helplessness is learned. Three components explain learned helplessness effects: contingency (objective control), cognition (subjective control), and behavior (how actively vs. passively one tries to cope). Once it occurs, helplessness produces profound disruptions in motivation (decreased willingness to try), learning (pessimistic learning set), and emotion (depression replaces energy-mobilizing emotions such as frustration).

Reactance theory, like the learned helplessness model, explains how people react to uncontrollable life events. Expectations of controllability foster reactance and activity, whereas expectations of uncontrollability foster helplessness and passivity. When confronting a situation that is difficult to control, individuals show an initial reactance response (increasingly assertive) to reestablish control. If reactance efforts fail to reestablish personal control, individuals then lose their expectation of control and show a subsequent helplessness response.

Expectancy–value models supplement the expectancy-based models of motivation with the new motivational concept of value. Value is the perceived attractiveness of a task, and it has four components, including interest value (interest-enjoyment), utility value (perceived importance or usefulness), attainment value (relevance to one's identity), and cost (e.g., negative emotionality, lost opportunity to engage in alternative tasks). Expectancy–value models argue that expectancy and value together predict indicators of approach and performance better than does expectancy alone. Utility value interventions help people make new "relevant to my life" connections between task and self, though they work only for people with initially low expectations.

READINGS FOR FURTHER STUDY

Perceived Control

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The Self and Its Strivings

TWO VIEWS OF SELF

- Self-as-Object
- Self-as-Agent
- The Problem with Self-Esteem

SELF-CONCEPT

- Self-Schemas
- Motivational Properties of Self-Schemas
- Consistent Self
- Self-Verification versus Self-Concept Change
- Why People Self-Verify
- Possible Selves

IDENTITY

- Roles
- Connections to Social Groups
- Situations Make Specific Identities Salient

AGENCY

- Self as Action and Development from Within
 - Differentiation and Integration
 - Internalization and the Integrating Self
- True Self?
- Self-Concordance
- Intrinsic Goals and Extrinsic Goals

SELF-REGULATION

- Forethought through Reflection
- Developing More Competent Self-Regulation
- Self-Control
 - Energy Depletion
 - Energy Replenishment
 - Limited Strength Model of Self-Control
- Is the Capacity to Exert Self-Control Beneficial to a Successful Life?

SUMMARY

READINGS FOR FURTHER STUDY

How have you been lately? Reflecting back on the last month, how many days have been happy ones? At school or work, how lively and satisfied have you felt? How are your relationships going? Are they providing you with experiences that leave you energized and fulfilled, or have they left you feeling mostly frustrated? How are your personal finances? How is your health? How are your career prospects?

In the spirit of these questions, consider whether you agree or disagree with each of the following statements:

1. Many of my personal qualities trouble me enough that I wish I could change them.
2. I feel isolated and frustrated in interpersonal relationships.
3. When making important decisions, I rely on the judgments of others.
4. Often I am unable to change or improve my circumstances.
5. My life lacks meaning.
6. I have a sense of personal stagnation that often leaves me bored.

These six statements represent facets of psychological well-being—or ill-being since each item is reverse coded. These six facets of well-being are, in order, *self-acceptance*—positive evaluations of oneself; *positive interpersonal relations*—close, warm relationships with others; *autonomy*—self-determination and personal causation; *environmental mastery*—sense of effectance in mastering circumstances and challenges; *purpose in life*—a sense of meaning that gives life direction; and *personal growth*—harboring a developmental trajectory characterized by improvement and growth (Ryff, 1989, 1995; Ryff & Keyes, 1995; Ryff & Singer, 2002). Your response to each aforementioned item reflects one of these six distinct contours of self-functioning and psychological well-being.

Pursuing these qualities is the province of the self. It is what the self does. If the self is doing its job, you will respond positively to the aforementioned six questions (e.g., my relationships are satisfying, I feel effective, I have purpose), and you will hence be psychologically flourishing. If the self is not doing its job, however, you will respond negatively to the aforementioned six questions and be psychologically suffering. For more information, Table 11.1 borrows from Ryff (1991) to describe these six dimensions of self-functioning in greater detail.

TWO VIEWS OF SELF

The self can be understood and studied in two different ways, as depicted graphically in Figure 11.1 (Cooley, 1902; Horney, 1950; James, 1890; Mead, 1934). From the first perspective (left side of the figure), the self is an agent that initiates action. It is the “I,” as in “I will play tennis today.” It is an inherent, inner agentic process and motivational force that cannot be observed directly but is, instead, inferred through its intentions, initiatives, strivings, and actions. From the second perspective (right side of the figure), the self is an object to be perceived, evaluated, labeled, and known. It is the “Me” as in “Me = tennis player.” It is the social-cognitive self that is acquired through learning, appraisals, and social feedback.

Whether one focuses on the self-as-agent (the “doer”) or the self-as-object (i.e., the “self-concept”) depends partly on one’s theoretical interest and perspective, but it depends mostly on what one is trying to understand about the self. In such a motivational analysis of the self, four problems or strivings of the self take center stage (Baumeister, 1987):

1. Define the self
2. Relate the self to society
3. Develop personal potential
4. Regulate the self

Table 11.1 Six Dimensions of Psychological Well-Being with Indicators of Both Wellness and Illness

| Dimension | Wellness Indicators | Illness Indicators |
|---------------------------------------|--|--|
| Self-Acceptance | <ul style="list-style-type: none"> • Positive attitude toward the self • Accepts good and bad qualities • Feels positive about the past | <ul style="list-style-type: none"> • Feels dissatisfied with self • Wishes to be different • Is disappointed with past |
| Positive Relations with Others | <ul style="list-style-type: none"> • Warm, satisfying relationships • Concerned about others • Capable of strong empathy | <ul style="list-style-type: none"> • Few close relationships • Feels isolated and frustrated • Unwilling to make compromises |
| Autonomy | <ul style="list-style-type: none"> • Is self-determining • Regulates behavior from within • Evaluates self by personal standards | <ul style="list-style-type: none"> • Concerned about the expectations of others • Relies on judgment of others • Conforms to social pressures |
| Environmental Mastery | <ul style="list-style-type: none"> • Sense of environmental mastery • Capitalizes on opportunities • Creates supportive surroundings | <ul style="list-style-type: none"> • Has difficulty managing the day • Unable to change or improve • Unaware of opportunities |
| Purpose in Life | <ul style="list-style-type: none"> • Has goals in life • Sees meaning in present and past • Has aims and objectives for living | <ul style="list-style-type: none"> • Has few goals • Lacks a sense of direction • Does not see purpose in the past |
| Personal Growth | <ul style="list-style-type: none"> • Sees self as growing • Has sense of realizing potential • Sees improvement in self | <ul style="list-style-type: none"> • Has sense of personal stagnation • Feels bored • Lacks sense of expansion |

Self-as-Object

Define the self. In the quest to define the self, we wonder about who we are, how others see us, and how similar and how different we are from others. We ask the basic questions of, “Who am I?” and “Do I have positive qualities and attributes?” Defining the self shows how *self-concept* energizes and directs behavior. Some aspects of self-definition are simply ascribed to us (e.g., gender). Other aspects, however, must be gained through achievement and through acts of choice (e.g., career, friends, values).

Relate the self to society. In the quest to relate the self to society, we contemplate our place in the social world and which societal roles are (and are not) available to us. We ask, “What is my role?” Relating the self to society shows how *identity* energizes, directs, and sustains behavior. In some respects, society is rigid in the roles it encourages or even allows individuals to pursue. In other respects, however, society is flexible. It gives the individual some choice and personal responsibility in determining who will be one’s relationship partners and which social roles will be occupied (e.g., student, mother, politician, teacher).

Self-as-Agent

Develop personal potential. In the quest to develop the self, we explore what does and does not interest us, we come to understand the difference between action caused by the self versus action caused by forces outside the self, we strive to create purpose and meaning, we seek to discover and develop our talents, and we devote our time to developing some skills and relationships rather than

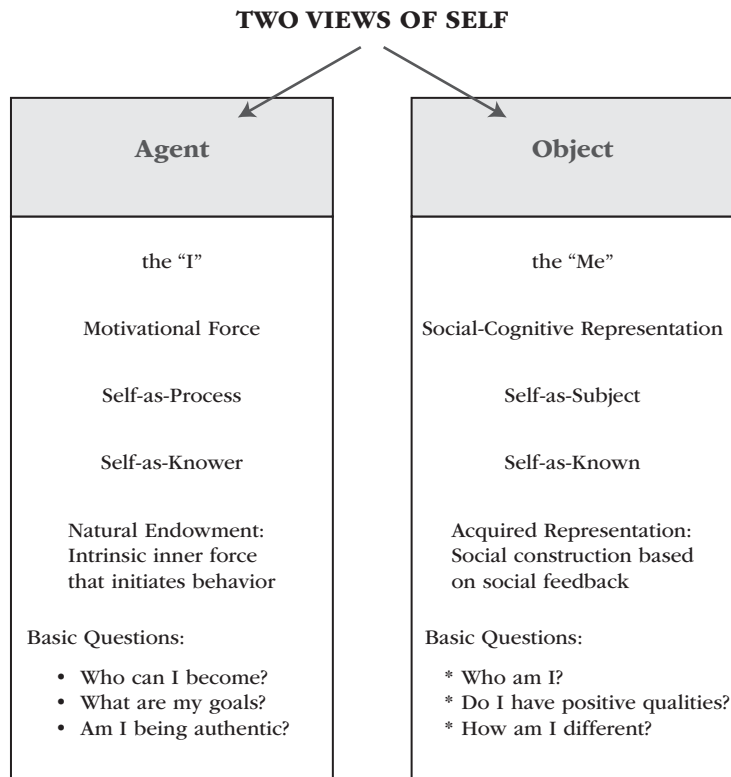


Figure 11.1 Defining Characteristics of Two Views of Self: Self-as-Agent and Self-as-Object

others. We ask, “Who can I become?” and “What are my goals?” Discovering and developing the potential of the self reflects and requires *agency*. Agency means that an agent (the self) has the power and intention to act. It reveals the motivation inherent within the self.

Regulate the self. In the quest to manage and regulate the self, we reflect on our capacities, set long-term goals to pursue, implement plans and strategies, monitor how well we are accomplishing our goals, and make the adjustments needed to achieve our long-term goals. We ask, “Can I exert self-control?” Managing or regulating the self shows how *self-regulation* makes competent functioning more likely. Instead of acting impulsively, the self can delay gratification and suppress short-term temptations in order to pursue long-term goals that are larger and more rewarding.

The Problem with Self-Esteem

Before discussing self-concept, identity, agency, and self-regulation, it will be helpful to pause and challenge a cornerstone belief that many people endorse: Namely, the best way to increase another person’s motivation is to increase his or her self-esteem. Teachers, employers, and coaches consistently and enthusiastically say that the way to motivate students, workers, and athletes is to increase their self-esteem. Praise them, reward them, congratulate them, make them feel good about who they are. Then sit back and watch all sorts of wonderful things unfold.

High self-esteem is okay. It is, for instance, correlated positively with being happy (Diener & Diener, 1996). The problem with boosting self-esteem as a motivational intervention, however, is that “there are almost no findings that self-esteem causes anything at all. Rather, self-esteem is caused by a whole panoply of successes and failures What needs improving is not self-esteem but improvement of our skills [for dealing] with the world” (Seligman, quoted in Azar, 1994). In

other words, in the relation between self-esteem and self-functioning, self-functioning is a cause while self-esteem is only an effect. Self-esteem is essentially a scorecard or a scoreboard to report on how well or how poorly things are going in our lives (Helmke & van Aken, 1995).

Self-esteem and achievement are positively correlated with one another (Bowles, 1999; Davies & Brember, 1999). However, increases in self-esteem do not cause corresponding increases in achievement or productivity; rather, increases in achievement and productivity cause corresponding increases in self-esteem (Helmke & van Aken, 1995; Marsh, 1990; Marsh & Craven, 2006; Marsh et al., 2006). Self-esteem reflects how life is going, but it is not the source of motivation that allows people to make life go well. There is simply no evidence that boosting people's self-esteem will improve their functioning (Baumeister Campbell, Krueger, & Vohs, 2003).

The chief benefit of high self-esteem is that it buffers the self against negative affectivity, such as depression (Alloy & Abramson, 1988) and anxiety (Greenberg et al., 1992; Solomon, Greenberg, & Pyszczynski, 1991). Self-esteem allows people to feel good about themselves, but—crucially—it does not motivate them to do anything.

If the aforementioned logic is true, then it is worth asking how the “self-esteem movement” got started in the first place. The movement owes its roots to 1986 when the state of California decided to boost the self-esteem of all state residents as a strategy to reduce school failure, welfare dependency, crime, unwanted pregnancy, and drug addiction (California Task Force to Promote Self-Esteem and Personal and Social Responsibility, 1989). The thinking was that virtually all psychological problems were traceable to low self-esteem (Branden, 1984). Following this lead (without any empirical evidence to support it), self-esteem boosting programs exploded on the scene in the form of programs such as Upward Bound, Head Start, the Early Training Project, and in-class pep rallies chanting, “*I am somebody!*” (as well as in popular books of the day, such as *I'm OK, You're OK* and *Awaken the Giant Within*). By the time empirical research caught up with these programs to test their effectiveness, results showed that these programs failed miserably to curb the sort of social problems identified by the California state legislatures (Baumeister Campbell, Krueger, & Vohs, 2003; Dawes, 1996; Swann, 1996). The high self-esteem that was being promoted was fanciful and ephemeral, not something of substance. Programs such as Head Start and Upward Bound *are* somewhat effective, but their effectiveness works through other components of the program in which children and adolescence work hard and develop new skills that position them well to earn authentic achievements (e.g., complete a difficult obstacle course). When achievements are earned authentically, they signal effective self-functioning, which in turn yields a residual after-effect of higher self-esteem.

In the end, the best conclusion is that self-esteem is like happiness. Trying to be happy does not get you very far. Rather, happiness is a by-product of life's satisfactions, triumphs, and positive relationships (Diener & Biswas-Diener, 2008). In the same spirit, self-esteem is merely a downstream consequence of the self's adaptive and productive functioning.

SELF-CONCEPT

Self-concepts are individuals' mental representations of themselves. Just as people have mental representations of other people (what teenagers are like), places (what the city of Chicago is like), and events (what Mardi Gras is like), people also have mental representations of themselves (what I am like). The self-concept is constructed from experiences and from reflections on those experiences.

To construct a self-concept, people attend to the feedback they receive in their day-to-day affairs that reveals their personal attributes, characteristics, and preferences. The building blocks people use to construct and define the self come from specific life experiences, such as the following:

- During the group discussion, I felt uncomfortable and self-conscious.
- On the school field trip to the zoo, I did not talk very much.
- At lunch, I avoided sitting with others.

During times of reflection, people do not remember the hundreds of individual life experiences. Rather, over time, people translate their multitude of specific experiences into a general representation of the self (e.g., given my inhibited experiences in groups, at the zoo, and during lunch, I perceive myself as “shy”). It is this general conclusion (“I’m shy”), rather than the specific experiences (in groups, at the zoo, and at lunch), that people remember and use to construct and define the self-concept (Markus, 1977).

Self-Schemas

Self-schemas are cognitive generalizations about the self that are domain specific and learned from past experiences (Markus, 1977, 1983). The earlier generalization of “I’m shy” exemplifies a self-schema. Being shy is both domain specific (relationships with others) and learned from past experiences (during group discussions, field trips, lunchroom conversations). Being shy does not represent the self-concept, but it does represent the self in one particular domain—one’s relationships with others.

In athletics, a high school student constructs a domain-specific self-schema by looking back on the week’s experiences and recalling his last-place finish in a 100-meter dash, his abandonment of a mile run because of exhaustion, and his repeated crashes into the bar during the high jump competition. In a different domain such as school, however, the same student might recall scoring well on a test, answering all the questions the teacher asked, and having a poem accepted for a school publication. Eventually, if the experiences in athletics and in the classroom are consistent and frequent enough, the student will generalize a self that is, for the most part, incompetent in athletics but skillful in school. These generalizations (athletically inept; intellectually smart) constitute additional domain-specific self-schemas.

The self-concept is a collection of domain-specific self-schemas. Which self-schemas are involved in the definition of the self-concept are those life domains that are most important to the person (Markus, 1977). The major life domains in early childhood, for instance, typically include cognitive competence, physical competence, peer acceptance, and behavioral conduct (Harter & Park, 1984). In adolescence, the major life domains generally include academic competence, athletic competence, physical appearance, peer acceptance, close friendships, romantic appeal, and behavioral conduct or morality (Harter, 1990). By college, the major life domains include academic competence, intellectual ability, creativity, job competence, athletic competence, physical appearance, peer acceptance, close friendships, romantic relationships, relationships with parents, morality, and sense of humor (Harter, 1990; Neemann & Harter, 1986). The specific life domains vary from one person to the next, but these domains illustrate the typical age-related structure of the self-concept (Harter, 1988; Kihlstrom & Cantor, 1984; Markus & Sentis, 1982; Scheier & Carver, 1988).

Motivational Properties of Self-Schemas

Self-schemas generate motivation in two ways. First, self-schemas, once formed, direct an individual’s behavior in ways that elicit feedback consistent with the established self-schemas. That is, because a person sees him- or herself as shy, that person directs his or her future behavior in interpersonal domains in ways that produce feedback that will confirm the “I’m shy” self-view. Shy people want and feel comfortable with social feedback that confirms that they are shy, just like humorous people want and feel comfortable with social feedback that confirms that they are humorous. In contrast, feedback that is inconsistent with the established self-schema produces a motivational tension from the inconsistency and self-disconfirmation that leads to resistance and counter-argumentation.

The basic idea behind self-schema consistency is that if a person is told she is introverted when she believes she is extraverted, that contradictory feedback generates a motivational tension. The tension motivates the self to restore consistency. Therefore, people behave in self-schema-consistent ways to prevent feeling an aversive motivational tension. If prevention does not work, then people behave in ways to generate new additional feedback that will restore self-schema consistency.

Second, self-schemas generate motivation to move the present self toward a desired future self. Much like goal setting's discrepancy-creating process (Chapter 8), an ideal possible self initiates goal-directed behavior. Thus, the student who wants to become an actor initiates whatever actions seem necessary for advancing the self from "student" to "actor." "Student" constitutes the present self, while "actor" constitutes the ideal self. Seeking ideal possible selves is a fundamentally different motivational process than is striving to maintain a consistent self-view. Seeking possible selves is a goal-setting process that invites self-concept change and development (see the section "Possible Selves"), whereas seeking a consistent self-view is a verification process that preserves self-concept stability (see the section "Consistent Self").

Consistent Self

Once an individual establishes a well-articulated self-schema in a particular domain, he generally acts to preserve that self-view. Once established, self-schemas become increasingly resistant to contradictory information (Markus, 1977, 1983).

People preserve a consistent self by actively seeking out information consistent with their self-concept and by ignoring information that contradicts their self-view (Swann, 1983, 1985, 1999; Tesser, 1988). It is psychologically disturbing to believe one thing is true about the self yet be told that the reverse is actually the case. Imagine the turmoil of the career politician who loses a local election or the turmoil of the star athlete who does not get drafted into the professional ranks. Inconsistency and contradiction generate an emotional discomfort that signals that consistency needs to be restored. It is this negative affective state that produces the motivation to seek self-confirmatory, and to avoid self-disconfirmatory, information and feedback.

To ensure that other people see us as we see ourselves, we adopt self-presentational signs and symbols that announce who we are (or think we are). Examples of such signs and symbols include the appearances we convey in our physical selves through clothes, dieting, weightlifting, cosmetic surgery, and even our possessions and the kinds of cars we drive. For instance, the person wearing a Green Bay Packers jacket sends a self-presentational message to others along the lines of, "I am a sports enthusiast and an athlete." In doing so, the person strives to develop a social environment that will feed back self-confirmatory information.

Furthermore, in the name of self-schema preservation, we intentionally choose to interact with others who treat us in ways that are consistent with our self-view, and we intentionally avoid others who treat us in ways that are inconsistent with our self-view, a process referred to as "selective interaction" (Robinson & Smith-Lovin, 1992; Swann, Pelham, & Krull, 1989). By choosing friends who confirm our self-view and by keeping our distance from those who contradict that self-view, we make self-confirmatory feedback more likely and we make self-disconfirmatory feedback less likely. Selective interaction explains a key reason why we choose particular friends, roommates, tutors, teachers, teammates, spouses, and so on—namely, because we use social interactions to maintain and verify our self-view (Swann, 1987). Selective interaction also explains why people tend to break up a relationship in which the other person sees the self differently than one sees oneself, as in divorce (De La Ronde & Swann, 1998; Katz, Beach, & Anderson, 1996; Schafer, Wickram, & Keith, 1996). By marrying one person rather than another, the individual selects an interaction partner who will be a source of self-consistent feedback, and by divorcing a marriage partner, the individual might be removing a source of self-discrepant feedback.

Despite preventive efforts, self-discrepant feedback does sometimes occur (as it did for the career politician and star athlete). The first line of defense is to distort that information. In the face of discrepant self-schema feedback, the individual may ask if the feedback is valid, if the source of the feedback is trustworthy, and how important or relevant this feedback is (Crary, 1966; Markus, 1977; Swann, 1983). For example, a student with a self-view of being intelligent but who fails a college course might functionally discredit that feedback by arguing against (1) its validity (i.e., "I was too busy to focus."), (2) the professor's judgment (i.e., "The professor is a nitwit."), and (3) its importance or relevance (i.e., "It is not what you know, but who you know that matters."). People

also counter disconfirming feedback with compensatory self-inflation (Greenberg & Pyszczynski, 1985), self-affirmation (Steele, 1988), and a barrage of new behaviors to prove one's actual self-view (e.g., "No, no, here let me show you..."; Swann & Hill, 1982). What all these ways of maintaining self-concept consistency have in common is that they marshal forward counter-examples and counter-explanations to essentially discredit the otherwise self-discrepant feedback. Once invalidated, self-discrepant feedback can be ignored and the self-view preserved.

Self-Verification versus Self-Concept Change

An individual's confidence that his or her self-schema is valid and true constitutes "self-concept certainty" (Harris & Snyder, 1986; Swann & Ely, 1984). When high, self-concept certainty anchors stable self-schemas. Discrepant feedback rarely changes a stable self-schema. When low, however, discrepant feedback can eventually instigate self-schema change. Conflict between an uncertain self-schema and discrepant feedback instigates a "crisis self-verification" (Swann, 1983, 1999).

The rather complicated self-verification process appears in Figure 11.2. Individuals start with a representation of self (a self-schema) and a preference for self-confirmatory feedback, as illustrated

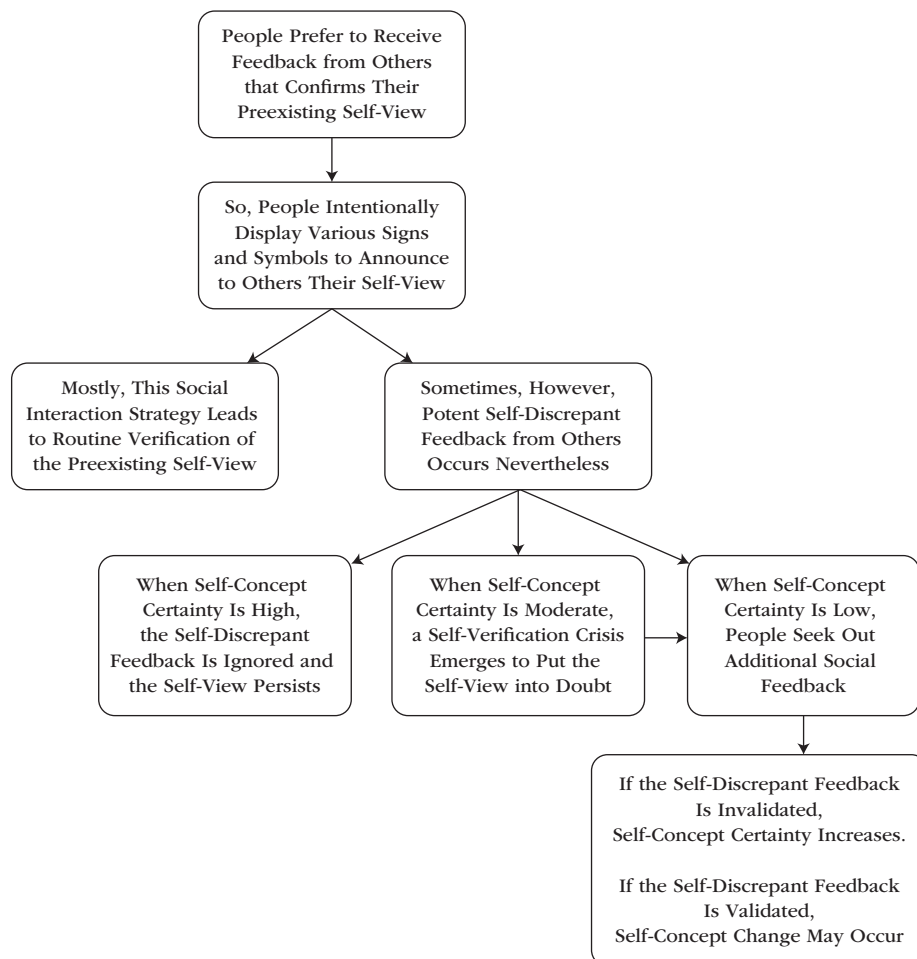


Figure 11.2 Processes Underlying Self-Verification and Self-Concept Change

at the top of the figure. As people publically display signs and symbols of who they are (their self-view), their daily social interaction tends to generate a steady stream of routine self-verification.

Things begin to get complicated only after the appearance of self-discrepant social feedback. People handle mild self-discrepant information rather well (Swann & Hill, 1982), as discussed earlier. The effect that potent (strong) disconfirming feedback has on the self-view, however, is not so easily integrated. Its effect depends on self-concept certainty. When self-concept certainty is low (see Figure 11.2), potent feedback *can* overwhelm preexisting self-schemas and instigate self-concept change. When self-concept certainty is high, however, potent feedback is resisted (Swann, Pelham, & Chidester, 1988) and instead counter-argued as but one small piece of information in the context of a lifetime of historical information (e.g., “I was outgoing this time, but I was not outgoing on 100 occasions in the past; therefore, I still think I am shy, all things considered”).

The most interesting case, developmentally speaking, occurs when self-concept certainty is moderate. When self-concept certainty is moderate and the person faces potent self-discrepant feedback (as did the politician and athlete), the individual experiences the self-verification crisis. During a self-verification crisis, the individual suspends judgment and seeks out additional feedback. If the additional feedback is very convincing, the self-verification crisis does not change the self-view but instead lowers self-concept certainty. It is the lowered self-concept certainty that makes the person vulnerable to subsequent self-concept change in the future. Notice, for instance, that the only path to “Self-Concept Change” is from low self-concept certainty (as shown on the lower, far right side of the Figure 11.2). If the additional feedback is self-confirming, the “best two out of three tie” is broken in favor of the preexisting self-view, and the self-verification crisis ends by strengthening self-concept certainty.

Before self-schemas change, (1) self-concept certainty must be low and (2) self-discrepant feedback must be potent and unambiguous—that is, difficult to discredit (Swann, 1983, 1985, 1987). Although self-concept can change, change is the exception rather than the rule. Self-concept change is rare, while self-verification and self-concept consistency are commonplace (see the examples in Box 11).

Why People Self-Verify

People prefer self-verification feedback for cognitive, epistemic, and pragmatic reasons. On the cognitive side, people self-verify because they seek to know themselves (to be true to oneself; Swann, Stein-Seroussi, & Giesler, 1992). Following epistemic concerns, people seek self-verification because verifications of the self bolster perceptions that the world is predictable and coherent (Swann & Pelham, 2002). On the pragmatic side, people self-verify because they wish to avoid interactions that might be fraught with misunderstandings and unrealistic expectations and performance demands; they seek interaction partners who know what to expect from them (Swann, 1992, 1999; Swann & Pelham, 2002).

Possible Selves

Self-schemas sometimes change in response to social feedback (see Figure 11.2). But it is more likely that self-schemas change in a more proactive and intentional way. Self-schema change can occur through a deliberate effort to advance the present self toward a desired future possible self. Possible selves represent individuals’ ideas of what they would like to become and also what they are afraid they might become (Markus & Nurius, 1986; Markus & Ruvalo, 1989). Some hoped-for selves might include, for instance, the successful self, the creative self, the rich self, the thin self, or the popular self; some feared selves might include the unemployed self, the disabled self, the overweight self, or the rejected self.

BOX 11 *Reversing Negative Self-Views*

Question: Why is this information important?

Answer: To help reverse a negative self-view.

A critical question in contexts such as therapy, friendship, and marriage is which type of feedback do people prefer more—self-enhancement (praise) or self-verification (accuracy) (Swann, 1999)? People certainly like praise and adoration, and when they hear it, the praise just feels good. But people also prefer self-verifying feedback; they want to hear the truth about themselves.

For people with a favorable self-view, self-enhancement and self-verification are the same—praise. For people with an unfavorable self-view, however, self-enhancement (praise) and self-verification (criticism) are two very different social messages. This difference is clinically important because research shows that self-verification (not self-enhancement) is a ubiquitous motivation within the strivings of the self-concept. This motivation for self-verification raises the difficult question of how one might go about the task of trying to reverse another person's negative self-view (e.g., I am incompetent, a loser, unattractive, clumsy, an alcoholic).

What does not help in the effort to reverse another person's unfavorable self-view is to offer compliments and praise. When a person with a negative self-view hears such self-enhancing feedback, she typically becomes motivated to act in a way that proves the validity of the negative self-view (Linehan, 1997; Robinson & Smith-Lovin, 1992). The person with the negative self-view winds up arguing with you and marshaling forth a wealth of often rather convincing evidence to counter your praise. It seems intuitive

that praise and adoration would lead to a positive self-view, but it does not when the person possesses a preexisting negative self-view. A better therapeutic strategy is to attempt to undermine the person's self-concept certainty (e.g., are you sure you are clumsy, stupid, unworthy, and incompetent?), as suggested in Figure 11.2.

A second strategy is to present extreme self-verification feedback. For instance, Bill Swann (1997) provides the example of challenging an unassertive person's self-view by forwarding the impression that he is a "complete doormat." The hope is that the person will behaviorally resist the extreme version of the identity (e.g., will counter-argue, will show rebuttal "signs and symbols"). Bill Swann has done the same with extreme conservatives, asking, "Why do you think men always make better bosses than women?"

A third strategy for self-concept change is to gain the support of key interaction partners, such as friends, lovers, relatives, and coworkers. Negative self-views are stabilized by interaction partners that provide a steady stream of negative feedback (Swann & Predmore, 1985), and there is some truth to the notion that women with low self-esteem marry men who are highly negative and abusive toward them (Buckner & Swann, 1996) and that aggressive kids have friends who affirm that they are tough, rough, and aggressive. Changing a negative self-view therefore involves changing the social feedback one receives day after day. Hence, gaining the social support of the person's key interaction partners is pivotal if one is to reverse a negative self-view (Swann, 1997, 1999; Swann & Pelham, 2002).

How a person might advance from *Current Self* to a desired future *Possible Self* is illustrated in Figure 11.3. Possible selves are mostly social in origin, as the individual observes the selves modeled by others (Markus & Nurius, 1986). The individual sees the current self as his or her "present self" and sees the role model as a desired, future "ideal self." Seeing the discrepancy, the individual makes an inference that he or she could become, just like the successful role model became, that desired self. For this to happen, the person compares his or her attributes, characteristics, skills, and abilities to the role model's attributes, characteristics, skills, and abilities. This comparison creates a motivational state of discrepancy (see Chapter 8). To remove the discrepancy, the person puts forth the effort, strategic planning, and personal initiative necessary to advance the current self to become more and more like the desired possible self. For instance, a child might watch performers in a musical and aspire to be a singer. One practical illustration of this is a jobs theme park for children in both Tokyo and Seoul ("Kidzania"). This indoor theme park provides an opportunity for children to try out being a pilot, dentist, engineer, and so forth, and it is hugely popular with children (and their parents!).

Possible selves represent the future self. The motivational function of a possible self therefore operates like that of a goal. As a goal—as a desired future end state—a possible self functions as a

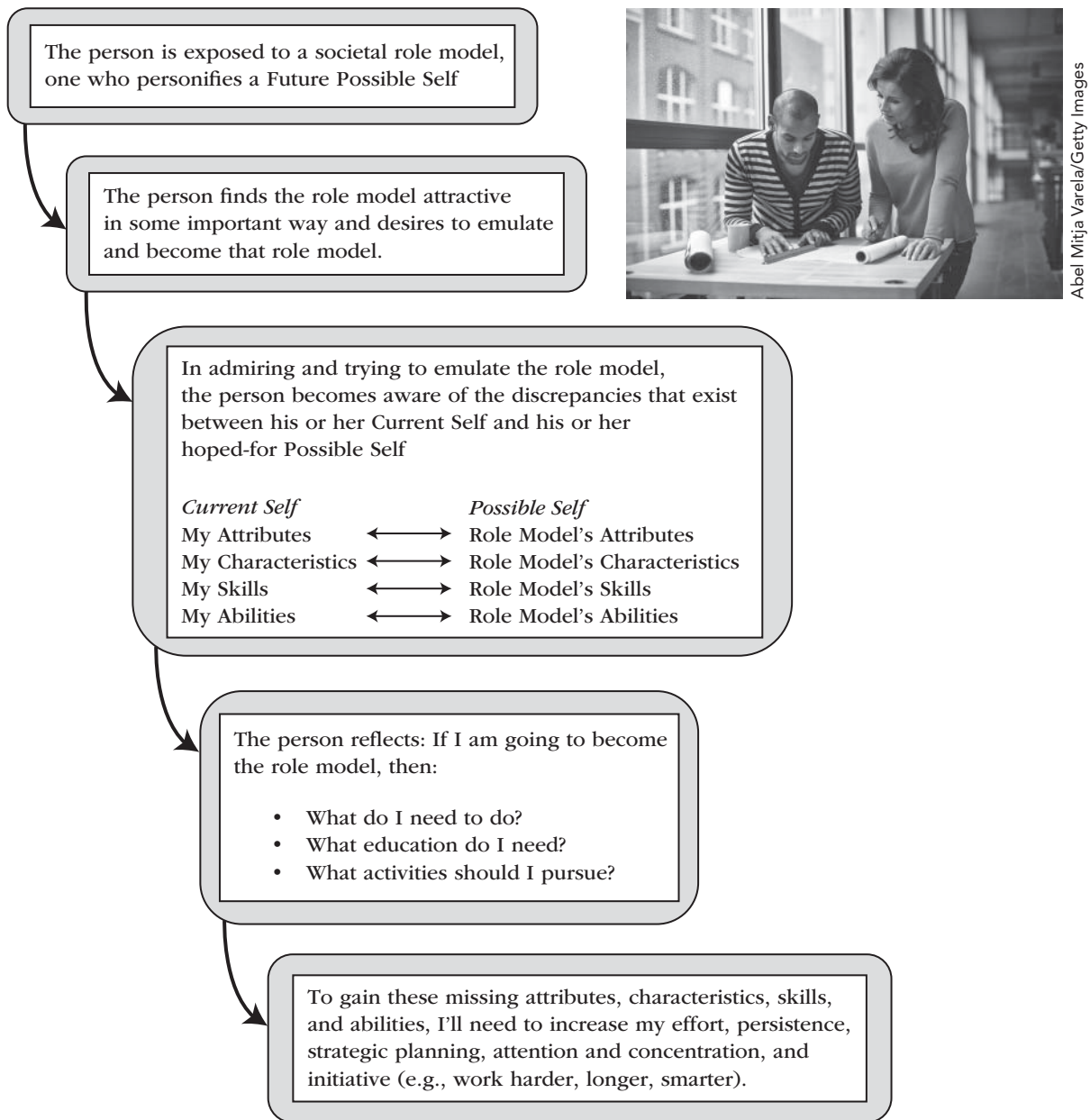


Figure 11.3 Illustration of How Exposure to an Attractive Possible Self Stimulates Goal-Directed Behavior

potent impetus to action in the same way that all goals do—namely, by enhancing effort, increasing persistence, focusing attention, and undertaking strategic planning (see Chapter 8).

Possible selves add an important piece of the puzzle in understanding how the self develops. Possible selves are essentially mental representations of attributes, characteristics, and abilities that the self does not yet possess (e.g., “I would like to become a physician, although I don’t know much about human anatomy or surgical techniques”). An individual pursuing a possible self relies little on the present self-schema and much on the hoped-for self, asking questions such as: If I am going to

become my possible self, then how should I behave? What activities should I pursue? What education do I need? (Cantor, Markus, Niedenthal, & Nurius, 1986; Markus & Nurius, 1986; Markus & Wurf, 1987) As these questions imply, advancing oneself toward an ideal self requires not only a possible self to strive for but also effective strategies for how to get there (Oyserman, Bybee, & Terry, 2006).

The notion of possible selves portrays the self as a dynamic entity with a past, present, and future (Cantor, Markus, Niedenthal, & Nurius, 1986; Day, Borkowski, Punzo, & Howsepian, 1994; Ryff, 1991). The individual without a possible self in a particular domain lacks an important cognitive-motivational basis for developing abilities in that domain (Cross & Markus, 1994). Perhaps the reader can look back at his or her own effort devoted to several different college courses and ask the following: What role did the presence versus absence of a relevant possible self play in determining how much effort I put forth, whether I read the textbook, whether I attended class, and whether I enrolled in the course? Part of the reason why you put forth high effort, persisted, focused attention, and planned strategically in one particular course can be traced to the presence of a relevant and important possible self, just as part of the reason why you slacken effort, persistence, attention, and strategic planning in a second course can be traced to the absence of a relevant and an important possible self. Day-to-day classroom activities and outcomes motivationally matter (e.g., the topic of the day, success/failure feedback), but the presence versus absence of a relevant possible self adds a future time perspective that contributes future-based motivation into today's activity.

As a personal illustration, try this mental exercise: Set aside some time to visualize and write about your "best possible selves" (King, 2001; Sheldon & Lyubomirsky, 2006), as follows (from Sheldon & Lyubomirsky, 2006, p. 77):

"Think about your best possible self" means that you imagine yourself in the future, after everything has gone as well as it possibly could. You have worked hard and succeeded at accomplishing all of your life goals. Think of this as the realization of your life dreams, and of your own best potentials. In all of these cases you are identifying the best possible way that things might turn out in your life.

Engaging in such a mental exercise helps boost people's positive emotion and also their self-concordant goal strivings (greater intrinsic motivation, greater identified regulation or valuing; Sheldon & Lyubomirsky, 2006). These findings might not be surprising, but the authors went on to explain how this "best possible selves" exercise can catalyze "sustainable happiness" (Lyubomirsky, Sheldon, & Schkade, 2005). The mental exercise boosted positive affect and self-concordant motivation, and these gains in positive affect and self-concordant motivation in turn motivated the person to continue to engage in the "best possible selves" mental exercises over time.

IDENTITY

Identity is both a psychological and a sociological phenomenon (Eccles, 2009). Sociologically, identity is one's place or role in society (Burke, 2003). Psychologically, identity is whether that role or social position or social description "feels right" and connects well with one's self-concept or "feels wrong" in terms of a mismatch between self-concept and social role (Oyserman & Destin, 2011). It is as if the person were looking at a series of 100 different photographs showing people in different social roles (e.g., teacher, policeperson, taxi drivers, priest) to judge "this one feels right," "that one feels wrong," and so on (Oyserman, Bybee, & Terry, 2006).

Identity is the means by which the self relates to society, as it captures the essence of who one is within a cultural context (Deaux, Reid, Mizrahi, & Ethier, 1995; Gecas & Burke, 1995). Cultures and social groups offer a variety of different identities that their individual members might occupy (i.e., societal roles) and might psychologically connect with and affiliate (i.e., psychological

values). Once a person inhabits a role (e.g., student, mother, salesperson, musician) or forms a social connection (e.g., liberal, environmentalist, surfer, Southerner), that identity then steers the person to display some behaviors (identity-confirming behaviors) while avoiding other behaviors (identity-disconfirming behaviors). Thus, identities matter because when a behavior feels identity-congruent, it feels natural and right as it confirms and expresses the identity, just as when a behavior feels unnatural and wrong when it is identity-incongruent (Oyserman, 2007).

Roles

A role consists of cultural expectations for behavior from the person who holds that social position. Each of us holds a number of different social positions (roles), and which role we inhabit at any given time depends on the situation we are in and the people with whom we are interacting. For instance, in a college classroom, you probably assume the role of “student” or “popular girl” or “all A’s guy” as you interact with other “students” and a “professor.” From a sociological point of view, it is not so much that Joe is interacting with Mary, Sue, and Jamar (individuals with unique motives and personalities) as it is that an inhabitant of the “professor” role interacts with several inhabitants of the “student” role. When you leave the classroom and go to your job at the psychology clinic, the role you occupy is very likely to change as you might assume the role of a “counselor” as you interact with “clients.” At home, your role and the roles of those you interact with might again change as you assume the role of “mother” (or father) who interacts with a “daughter.” While assuming one role rather than another, people change how they act. They change the topic of their conversation, the vocabulary they use, the tone of their voice, and so forth. Even though “Mary” is still the same person, she converses in different ways when she finds herself in the role of “professor” rather than “mother.”

Connections to Social Groups

In addition to societal roles, people have connections to social groups, such as shared affiliations (“I am a Catholic”), shared interests (“I am a football fan”), and shared beliefs and values (“I am an environmentalist”). Instead of occupying social roles, these connections are endorsements of psychological values. As people consider their connections to social groups—accepting some of these connections while rejecting others, they go through a process of identity formation (Soenens et al., 2011). This process of choosing which identities to incorporate into the self and which other identities to reject is a formidable developmental challenge, but it does provide the person with the answer to the core self problem of, “How will I relate myself to society?”

To answer this identity question, people engage in different levels of exploration and commitment to those possible identities that are of interest and are available to them (Luyckx et al., 2009). Some people adopt an informational style in which they seek out and critically evaluate their identity-related options and possibilities, whereas other people adopt a normative style in which they rely on the expectations and prescriptions of those they look up to (Soenens et al., 2005). These different styles are important because they explain why some people hold authentic, complex, and well-integrated identities (i.e., those with an informational style), while others hold less authentic and fragmented identities (i.e., those with a normative style), a distinction that has implications for the person’s well-being (Linville, 1987; Ryan La Guardia, & Rawsthorne, 2005).

Situations Make Specific Identities Salient

The identity we inhabit depends somewhat on the situation we find ourselves in. Thus, at home, one is a “mother” but at the office, one is “CEO.” People harbor a multitude of identities, so which

identity guides current behavior is somewhat dependent on which identity is made salient by the situational context. Interventions such as the “School-to-Jobs” intervention help students make the transition from an identity embedded in a highly familiar and well-defined situation (school) to an identity embedded in a significantly less familiar and less well-defined situation (work) (Oyserman, Brickman, Bybee, & Celious, 2006).

AGENCY

The self goes deeper than just cognitive structures (self-concept). The self further possesses an intrinsic motivation that gives it a quality of agency (Ryan, 1993). Agency entails personal causation and action (deCharms, 1987). Agency presents a view of self “as action and development from within, as innate processes and motivations” (Deci & Ryan, 1991).

Self as Action and Development from Within

Chapter 6 discussed the organismic psychological needs of autonomy, competence, and relatedness—needs that provide a natural motivational force to foster agency (i.e., initiative, action). These psychological needs are inseparably coordinated with the active nature of the developing self (Deci & Ryan, 1991) and are the source of motivation that underlies agency (i.e., pursue one’s interests, seek out environmental challenges, exercise skills, and develop talents so to discover, develop, and fulfill one’s potential).

Differentiation and Integration

Differentiation and integration are two developmental processes inherent within the self. Differentiation expands and elaborates the self into an ever-increasing complexity. Integration synthesizes that emerging complexity into a coherent whole, thereby preserving a sense of a single, cohesive self.

Differentiation proceeds as the individual exercises existing interests, preferences, and capacities in such a way that a relatively general and undifferentiated self becomes specialized into several life domains. For an illustration, consider your own history in which you learned that not all computers are alike, not all sports are alike, not all politicians are alike, and not all religions are alike. Minimal differentiation manifests itself in simplicity in which the person has only a unidimensional understanding of a particular domain of knowledge; rich differentiation manifests itself in understanding fine discriminations and unique aspects of a particular life domain.

Intrinsic motivation, interests, and psychological needs proactively energize the self to interact with the world in such a way to differentiate the self into an ever-increasing complexity. For instance, the child with an interest in Pokemon skims through websites, buys Pokemon trading cards, uses Pokemon apps on a smartphone, talks with peers about Pokemon, draws Pokemon figures, starts a Pokemon fan club with friends, builds a personal library of Pokemon books, and basically develops specialized skills while learning. It is the self’s intrinsic motivation that gives it the agency it needs to skim through catalogues, attend club meetings, talk to peers, and so on, and it is this ongoing and agentic stream of experience that allows the self to differentiate and grow in complexity.

Differentiation does not expand the complexity of the self unabated. Rather, there exists a synthetic tendency to integrate the self’s emerging complexity into a single sense of self, into a coherent unity. Integration is an organizational process that brings the self’s differentiated parts back together into a coherent whole (into a single sense of self, rather than remain as a self characterized by dozens of unrelated or even somewhat contradictory self-schemas).

The notions of agency (via intrinsic motivation), differentiation, and integration argue that the self possesses inherent aspects (recall Figure 11.1). Psychological needs and developmental processes provide a starting point for the development of the nascent self. As individuals mature, they

gain increasing contact with the social context, and some of these aspects of the social world become assimilated and integrated into the self-system. The motivational portrayal of self-development therefore argues strongly against the idea that the self is merely a passive recipient of the social world's feedback (self-schemas) and identities (places in the social order). The self also actively develops itself via its inherent agency.

Internalization and the Integrating Self

With its inherent needs and emerging interests, preferences, potentials, and capacities, the self is poised to grow, develop, and differentiate. The need for relatedness, however, keeps the individual close to societal concerns and regulations, and the self therefore develops both toward autonomy and relatedness.

The psychological need for relatedness (warm, close relationships with others) is the quality of motivation that supports the individual's proactive motivation to internalize society's rules, values, and concerns. So, behaviors, emotions, and ways of thinking originate not only within the self but also within the social context and society. As a person plays, studies, works, performs, and interacts with others, these other people request that the self comply with particular ways of behaving, feeling, and thinking. Thus, intentional acts (i.e., agency) sometimes arise from the self, but intentional acts also sometimes arise from the guidance and recommendations of others. The process through which individuals take in and accept as their own an externally prescribed way of thinking, feeling, or behaving is referred to as internalization (Ryan & Connell, 1989; Ryan Mims, & Koestner, 1993).

Internalization (literally, "taking in") occurs for two essential reasons. First, internalization occurs from the individual's desire to achieve meaningful relationships with friends, parents, teachers, coaches, employers, clergy, family, and others. Thus, internalization is motivated by the need for relatedness.

Second, internalization occurs from the individual's desire to interact effectively with the social world. Thus, internalization is motivated by the need for competence. Much of what the person internalizes promotes his effective functioning (e.g., go to school, brush your teeth, apologize to others). Such internalization has adaptive interpersonal value for the self, because it promotes not only greater effectance in environmental transactions but also greater unity between the self and society.

The concept of self-as-agent recognizes that (1) human beings possess a core self, one energized by innate motivation and directed by the inherent developmental processes of differentiation and integration, and (2) not all internalized self-structures are equally authentic, as some self-structures truly reflect the core self while other self-structures only reflect and reproduce the needs and priorities of society (Ryan, 1991, 1993; Ryan & Deci, 2017). Because some self-structures originate in society, they may produce conflict within the self. Conflict is the opposite of integration. Controlling (pressuring, conflictual) environmental conditions lead the self to ignore innate needs and preferences and, instead, develop a self-structure around the goal of external validation (Hodgins & Knee, 2002). Hence, people who pursue external validation of a socially desirable self might choose a career for the financial wealth, prestige, or social power it offers rather than a career that is more consistent with their intrinsic interests, preferences, and psychological needs.

True Self?

The true self reflects the extent to which one is "in touch" with inner experience (i.e., one is mindful of his or her needs, interests, personal goals). With such awareness and mindfulness, a close connection between inner experience and actual behavior exists. In contrast, a false self is one in which inner experiences are ignored, suppressed, or distorted, so that there exists little connection between inner experience and one's behavior. Generally speaking, people gain mindfulness and personal knowledge of the true self when relationships support their strivings, self-expressions, and

intentions. But when relationships and social forces are critical, evaluative, controlling, or simply nonresponsive, then the true self's autonomous functioning is compromised and an inflated, defensive, and distorted sense of self emerges to accommodate such harshness and lack of support (Horney, 1950; Rogers, 1961; Ryan & Deci, 2017).

Self-Concordance

The questions asked by the self-concordance model (Sheldon, 2002) are (1) How do people decide what to strive for in their lives? and (2) How does this personal striving process sometimes nurture the self and promote well-being yet other times go awry and diminish well-being?

When people decide to pursue goals that are congruent or “concordant” with their core self, they pursue “self-concordant” goals. Figure 11.4 graphically illustrates the notion that a person's goals may or may not represent the self's inherent needs, interests, and internalized values (based on Sheldon & Elliot, 1998, 1999). Following self-determination theory (Chapter 5), intrinsic goals (goals that arise out of personal interests) and identified goals (goals that arise out of personal conviction or values) represent self-concordant goals. Self-concordant goals reflect and express the integrated, agentic self. Introjected goals (goals that arise out of social obligations—it's what I should do or ought to do) and extrinsic goals (goals that arise out of a desire to be praised or rewarded) represent self-discordant goals. Self-discordant goals reflect and express nonintegrated action that emanates out of controlling internal and external pressures.

The self-concordance model appears in Figure 11.5 (Sheldon & Elliot, 1999). The model begins when the person sets a goal. For instance, one person might set the goal of getting married, another might set a goal to make new friends, while yet another might set a goal of quitting smoking. The first question the self-concordance model asks of such a goal is simply: *Why?* Why do you want to get married? Why do you want to make new friends? Why do you want to quit smoking tobacco? Some goals reflect and emanate out from the core self's needs, interests, and preferences (self-concordant goals), while other goals do not. Self-concordant goals are motivationally important because they generate and sustain greater effort, greater enthusiasm, and greater agency than do self-discordant goals (Sheldon & Elliot, 1999). Greater effort, enthusiasm, and agency, especially when sustained over time, increases the likelihood of subsequent goal attainment. Goal attainments motivated by self-concordant goals foster need-satisfying experiences. Finally, it is this experience of

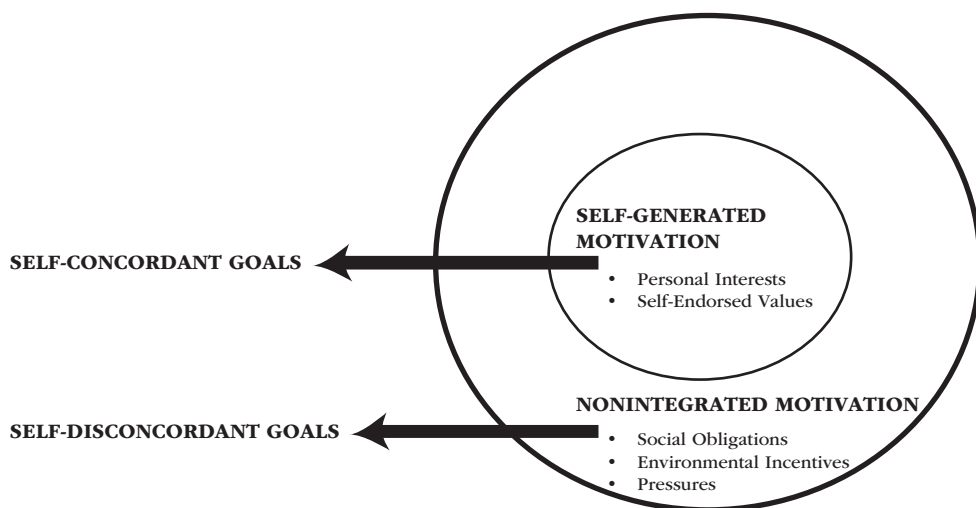


Figure 11.4 Diagrammatic Illustration of Self-Generated and Nonintegrated Action

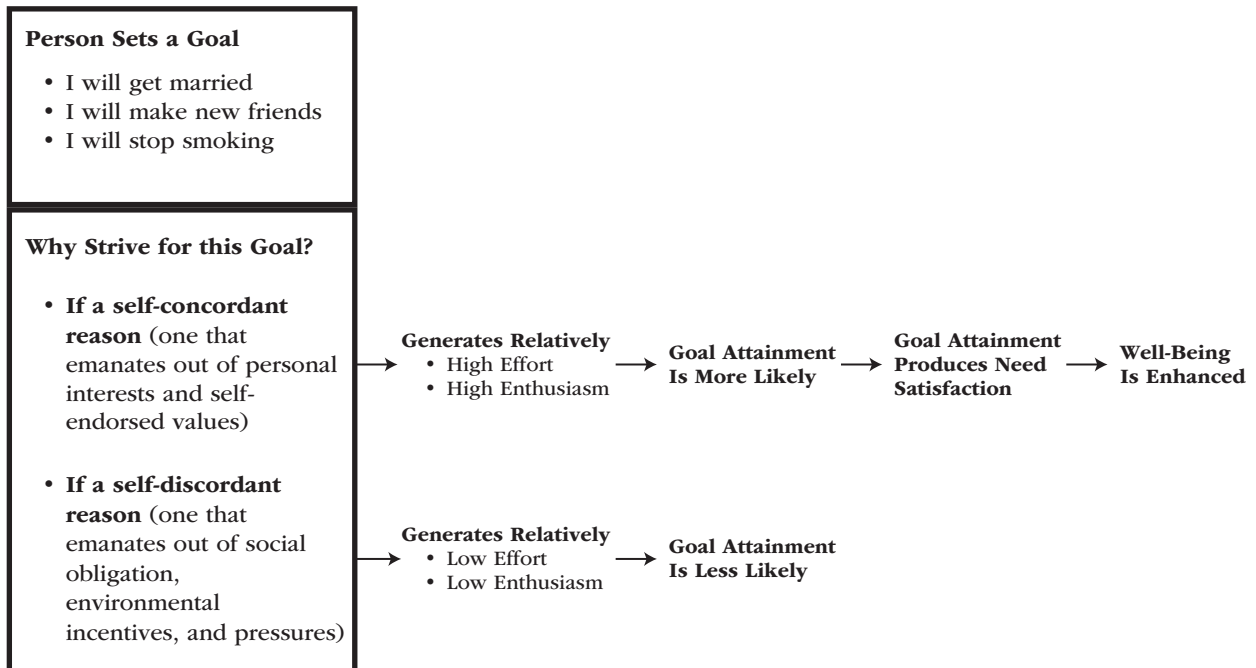


Figure 11.5 Self-Concordance Model

authentic need satisfaction (autonomy, competence, and relatedness) that increases well-being (i.e., gains in positive mood, vitality, physical health). That is, attaining self-concordant goals provides the self with psychological nutriments that sustain well-being and agency motivation (Ryan, 1995).

A handy “How am I feeling about this?” self-test exists to determine whether a personal goal is self-concordant or self-discordant. Self-concordant goals (intrinsic goals, identified goals) emanate out of a sense of authenticity and personal ownership (e.g., “I want to quit smoking”). Accordingly, the desire to pursue self-concordant goals occurs in a context of positive affect, personal growth, and psychological well-being (Sheldon, 2001). On the other hand, self-discordant goals (extrinsic goals, introjected goals) emanate out of a sense of conflict, pressure, and obligation to others or to social demands (e.g., “I have to quit smoking”) (Sheldon & Elliot, 1999; Sheldon & Houser-Marko, 2001). Accordingly, the desire to pursue self-discordant goals is embedded in a context of anxiety, psychological conflict, and social pressure (Sheldon & Kasser, 1998).

The act of acquiring a heartfelt sense of ownership in one’s personal goals is a crucial developmental task of the self. A self characterized by agency is proactive and endowed with personal initiative for life improvement and self-expansion, rather than just being reactive to situational and cultural forces that come along.

Intrinsic Goals and Extrinsic Goals

The basic premise of research on intrinsic versus extrinsic goals is that not all goals or life aspirations are equal, as some goals (intrinsic) are more beneficial for psychological health and social functioning than are other (extrinsic) goals (Kasser, 2016; Kasser & Ryan, 1996, 2001; Niemiec, Ryan, & Deci, 2009; Ryan, Sheldon, Kasser, & Deci, 1996). To give you a sample of what this means, enter one of your important life goals in the following blank:

My goal in life is to _____.

Table 11.2 Prototypical Intrinsic Goals and Extrinsic Goals

| | |
|------------------------|---|
| Intrinsic Goals | Personal Growth The pursuit of self-actualization, psychological growth, and positive self-development. |
| | Close Relationships The pursuit of close emotional bonds, emotional intimacy, and highly satisfying relationship with others. |
| | Community Contribution The pursuit of a better local community and a better world through prosocial activity. |
| Extrinsic Goals | Financial Success (Money) The pursuit of personal wealth and symbols of that wealth, such as material possessions. |
| | Social Recognition (Fame) The pursuit of social admiration, social approval, to be well-known, and to be recognized by others as famous. |
| | Attractive Appearance (Image) The pursuit of social compliments and high social status by looking attractive in terms of body, clothing, and fashion. |

Intrinsic goals are those life aspirations and pursuits that are inherently satisfying because their pursuit gives rise to frequent and recurring opportunities for the goal striver to experience autonomy, competence, and relatedness need satisfaction along the way. Some prototypical intrinsic goals are listed in the upper half of Table 11.2. As people pursue intrinsic goals, they typically experience a steady stream of autonomy and competence need satisfaction, and as people pursue relationship growth and community contribution goals, they typically experience a steady stream of relatedness satisfaction.

Extrinsic goals are those life aspirations and pursuits that require contingent regard or affirmation from others and are therefore neutral or unsatisfying—because their pursuit veers the goal striver’s thoughts and behaviors off in a direction in which need satisfaction tends to be neglected, thwarted, or sacrificed/compromised. Some prototypical extrinsic life goals are listed in the lower part of Table 11.2, and include aspiring for money, fame, and image (i.e., fame and fortune). As people pursue fame and fortune, experiences of autonomy, competence, and relatedness need satisfaction are typically few and far between.

Across a range of life domains (e.g., work, exercise), the pursuit and attainment of intrinsic, relative to extrinsic, goals predicts not only greater need satisfaction but also greater engagement (effort, persistence), learning, performance, and well-being (Niemic Ryan, & Deci, 2009; Sheldon, Ryan, Deci, & Kasser, 2004; Vansteenkiste et al., 2004). These benefits materialize because the pursuit of need-satisfying intrinsic goals energizes the goal striver’s effort, persistence, strategic thinking, and agency in a way that extrinsic goals do not (Sheldon & Elliot, 1998). Rather than create opportunities for psychological need satisfaction, what people who pursue extrinsic goals experience along the way tends to be (1) less loving and more conflicted relationships (Kasser & Ryan, 2001); (2) social comparisons (e.g., “Am I wealthier, more attractive, and more popular than her?”; Ryan, Kuhl, & Deci, 1997); and (3) little time left over to devote to pursuing need-satisfying intrinsic goals (Frey & Oberholzer-Gee, 1997). Overall, extrinsic goal pursuit reflects a materialistic value system that places a strong emphasis on the acquisition of money, fame, and image as a pathway to happiness and well-being (Kasser, 2002, 2016; Kasser & Kanner, 2004).

Why intrinsic goals produce greater well-being can be illustrated by an analogy to nutrition (Kasser & Ryan, 2001). Intrinsic goals are those that seek to satisfy one’s innate psychological needs,

and these sorts of goals act like a diet of fruits and vegetables. Striving for extrinsic goals, on the other hand, is largely irrelevant to people's innate psychological needs, and these goals act like a diet of candy and cookies, a diet that is unable to promote personal growth or subjective well-being.

Furthermore, it is a key point that even when those who pursue extrinsic goals actually attain their goals (i.e., become millionaires, celebrities), they still do not experience psychological well-being (Kasser & Ryan, 2001). Subjective well-being does not come from attaining one's goals; instead, it comes from why one is striving for whatever it is one is striving for (Emmons, 1996; Sheldon & Elliot, 1998). This insight brings the discussion back to the original question on the previous page ("My goal in life is to ____.") to ask the follow-up question of: Why? Why do you strive for that particular goal in life? When people strive for autonomy, competence, and relatedness aspirations, they are able to create a meaning in their lives that fosters subjective well-being. In the end, subjective well-being is about what one is striving for, not about what one actually attains.

SELF-REGULATION

Self-regulation begins with setting a long-term goal. Long-term goals, such as "graduate college," "learn a foreign language," and "develop a good relationship," do not simply accomplish themselves. Instead, the self needs to exert cognitive, motivational, and emotional effort to advance a hoped-for goal to its desired end state (goal attainment). This process of exerting and managing the self to accomplish a long-term goal is referred to as self-regulation. More formally, self-regulation is the metacognitive planning, implementing, monitoring, and evaluating of one's goal striving efforts (Pintrich, 2000; Zimmerman, 2002).

Forethought through Reflection

Self-regulation is a process. It begins with setting a long-term goal and involves each of the following that occurs over time:

- Planning and strategic thinking
- Implementing action and self-control
- Monitoring and checking
- Reflecting and adjusting

Once the self has set a long-term goal to strive for, the attainment of that goal needs to be planned; the individual generates a plan of action, adopts strategies to bring the goal to fruition, and creates implementation intentions. Once the goal-setting process has been established, the individual moves on to goal striving and to self-control. Goal striving requires cognitive, motivational, and emotional work, because plans and strategies need to be implemented, while self-control requires suppressing and overriding short-term goal-antagonistic impulses, distractions, and temptations. As goal striving unfolds over time, the individual needs to monitor the goal-performance discrepancy and whether it is being reduced and progress is being made. Finally, the individual needs to reflect on why self-regulation succeeded or failed. Once diagnosed, reflected upon, and understood, future self-regulatory efforts need to be revised and updated to better position the individual for future self-regulation success.

As illustrated in Figure 11.6, self-regulation is an ongoing, cyclical process (Zimmerman, 2000). It involves forethought (goal setting, strategic planning), action (goal striving, self-control), and reflection (self-monitoring and self-evaluation that leads to more informed forethought prior to the next performance opportunity). The ongoing, cyclical nature of self-regulation is apparent when reflection on one's self-regulatory successes and failures leads to new and improved forethought—hence, to more effective future self-regulation.

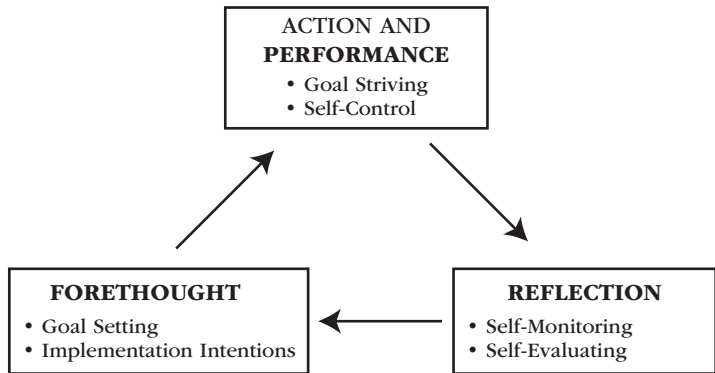


Figure 11.6 Cyclical Phases of Self-Regulation

Developing More Competent Self-Regulation

Everyone engages in self-regulation, but some people do it better than others (Winne, 1997). Most researchers view self-regulation as a skill of the self, a skill that needs to be acquired, improved, and refined (Schunk & Zimmerman, 1997). That self-regulation is an acquired skill is most apparent when people pursue a long-term goal in an unfamiliar domain (e.g., a student enrolls in an honors class for the first time, an employee begins a new job). In an unfamiliar or unpracticed domain, the individual wonders, “What do I need to do?” and “How can I accomplish my goals?”

As shown in Figure 11.7, self-regulation involves the capacity to carry out the full goal-setting process on one’s own (Schunk & Zimmerman, 1997). Gains in self-regulatory competence generally occur within a social learning process and at an observational level in which a relative novice observes the behavior and verbalizations of a relative expert.

The novice first imitates the expert model (as illustrated in Figure 11.8), and observation eventually leads to imitation. During a period of imitation, the novice begins to receive social guidance and corrective feedback as to the effectiveness of his imitative behaviors. Adjustments toward ever more effective self-regulation are made. Following a period of social guidance and corrective feedback, the novice begins to internalize the goals and standards of excellence endorsed by the model. At this point, the roots of effective self-regulation begin to take hold. The novice eventually becomes self-regulating in the domain when he no longer needs the expert model and can self-regulate in terms of goal-setting, goal-striving, self-monitoring, and self-evaluating. For instance, in learning how to become a competent and self-regulated writer, the novice observes and emulates the expert writer’s

| Lack of Self-Regulation Skill | Social Learning Process | Acquisition of Competent Self-Regulation Skill |
|--|--|---|
| Unable to regulate one's goals, implementation intentions, and coping strategies in a new domain | 1. Observation of expert model 2. Imitation, social guidance, feedback 3. Internalization of standards 4. Self-regulatory process, including self-monitoring, self-evaluating | Able to self-regulate one's goals, behaviors, and standards in the domain |

Figure 11.7 Summary of the Social Learning Process to Acquire Self-Regulation Skill



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Figure 11.8 Acquiring Self-Regulation Skill by First Observing and Imitating an Expert Model

style and standards, learns to set goals and formulate strategies and implementation intentions, restructures the physical environment to facilitate writing, and acquires the means to monitor and evaluate his or her own work (Zimmerman & Risemberg, 1997).

Building expertise requires intensive mentoring and countless hours of deliberate practice on one's own (Ericsson & Charness, 1994; Ericsson, Krampe, & Tesch-Romer, 1993). Independent deliberate practice is very important, but the thesis in the self-regulation literature is that people can acquire, develop, and master complex skills more quickly and more expertly if they have the benefit of a tutor who models how to set goals, develop strategies, formulate implementation intentions, monitor performance, and evaluate (on one's own) the ongoing goal–performance–feedback process.

Self-Control

Long-term goal pursuit is difficult for many reasons, one of which is that people are more attracted to the immediate gratification of short-term temptations than they are to the delayed gratification from long-term goals. Impulsive behavior is quick and easy—just yield and eat the cookies, drink the alcohol, and play video games rather than get to work. The problem with these short-term attractions is that they are so often incompatible with, and even antagonistic to, long-term goal pursuit. That is, it is hard to finish your work if you are playing a video game. Similarly, to eat healthy, we not only need to consume more fruits and vegetables but simultaneously resist urges to eat chocolate chip cookies, bowls of ice cream, and whatever else is so easy to “grab and go” at the convenience store.

Self-control is the capacity to suppress, restrain, and even override an impulsive desire so to pursue a long-term goal (Bauer & Baumeister, 2011). It is the capacity to interrupt our tendency toward automatic pilot and short-term attractions and, instead, to steer behavior intentionally in the direction of a long-term goal. At a colloquial level, self-control is “willpower” (Baumeister & Tierney, 2011).

To get a feel for self-control in action, consider the radish experiment (Baumeister, Bratslavsky, Muraven, & Tice, 1998). Participants in the experimental group first perform some task that requires self-control, while participants in the control group perform a similar task but one that does not require self-control. Next, all participants move to a second, unrelated task that requires self-control. The hypothesis is that, because self-control is depleting (exhausting, effortful), participants who perform the initial self-control task become exhausted and therefore perform more poorly on the follow-up self-control task than do the participants in the control group.

In the radish study, the experimenters asked all participants to fast for at least three hours prior to the study. When participants walked into the laboratory, the experimenters arranged to have the smell of freshly baked chocolate chip cookies in the air. As participants sat down to begin the study, in front of them on a table was a stack of those fresh chocolate chip cookies and a bowl of raw radishes. Participants in the experimental group were assigned the high self-control task of eating the radishes and resisting the chocolate chip cookies, while participants in the control group were assigned no such self-control task and could eat whatever they wanted. After five minutes, all participants were next taken to another room and given some impossible-to-solve geometry problems (e.g., trace a geometric figure without retracing any lines or lifting the pencil from the paper). The test (the dependent measure) was how long the participants would persist before giving up.

On average, participants who ate the chocolate chip cookies persisted for 19 minutes, while participants who ate the radishes (put out all that effort to suppress the urge to eat the cookies) persisted for only eight minutes. The radish-consuming participants just did not have the same level of energy available to them to persist on the difficult problems.

Unfortunately, life is a constant task of trying to resist the equivalent of freshly baked chocolate chip cookies. Researchers have now completed about 100 studies using the research paradigm outlined earlier (manipulating different targets of self-control) and, in doing so, have identified the following seven broad spheres of self-control (Baumeister & Vohs, 2007; Hagger, Wood, Stiff, & Chatzisarantis, 2010):

- Suppressing impulses, urges, desires
- Managing and suppressing emotions
- Controlling and suppressing thoughts
- Controlling attention
- Making decisions and lots of choices
- Managing the impression one is making on others
- Being kind when dealing with difficult, demanding people

In separate experiments on self-control, researchers have had participants exert self-control by *suppressing impulses, urges, and desires* such as resisting sweets and snacks (Vohs, Baumeister, & Ciarocco, 2005) and the urge to drink or smoke a cigarette (Muraven & Shmueli, 2006); *managing emotions* by suppressing natural emotional reactions such as not crying while watching a very sad movie (Muraven, Tice, & Baumeister, 1998) or suppressing disgust reactions while looking at a contaminated object (Schmeichel, Demaree, Robinson, & Pu, 2006); *controlling thoughts* by suppressing or trying to get rid of an unwanted thought (Muraven, Tice, & Baumeister, 1998); *controlling attention* by prolonging perseverance, dutifully memorizing words, and engaging in tasks of vigilance (Schmeichel, Vohs, & Baumeister, 2003); *making a lot of decision and choices* concerning trivial and unimportant options (Vohs et al., 2008); *managing the impression one is making* on an audience of others by presenting oneself as a competent and likable person (Vohs, Baumeister, & Ciarocco, 2005); and *being kind when dealing with difficult, demanding people* by being polite when interacting with “high-maintenance” others (Finkel et al., 2006).

Energy Depletion

The findings from the radish experiment suggest that self-control is more than a skill. It is an energy reserve that exists in only a limited amount. After self-control is exercised, people temporarily lose some of their capacity for future self-control. And, as people lose their capacity for self-control, they become increasingly likely to fall prey to impulsive desires, urges, and temptations.

This line of thinking led to the proposal of the limited strength model of self-control (Baumeister & Heatherton, 1996; Baumeister, Muraven, & Tice, 2000; Baumeister, Vohs, & Tice, 2007; Muraven, 2012), which can be presented in a series of three propositions:

1. Amount or strength of willpower is critical to the success of self-control.
2. The exertion of self-control depletes some of this resource, and hence,
3. Subsequent attempts at self-control are increasingly likely to fail.

Such a model begs the question as to what is depleted during self-control attempts. The answer seems to be the brain fuel of glucose (Gailliot & Baumeister, 2007; Gailliot et al., 2007).

Glucose is manufactured in the body from food. During digestion, this sugar is produced and released into the bloodstream where it travels to the muscles, heart, liver, immune system, and brain. The brain is a big user of energy; it consumes about 20 percent of the body's glucose-supplied fuel (i.e., calories). Glucose does not actually enter the brain but, instead, it is converted into what the brain does use—namely, neurotransmitters. If the brain runs out of neurotransmitters, then it stops thinking. And if the brain stops thinking, it becomes more impulsive and exerts less executive control. All this complex biology boils down to a simple understanding: “No glucose, no willpower” (Baumeister & Tierney, 2011, p. 49).

If the aforementioned reasoning is sound, then people who exert self-control should show a significant drop in their glucose level. Research shows that this is precisely what does happen and, further, that the drop in glucose is rather quick and rather large (Gailliot & Baumeister, 2007; Gailliot et al., 2007). That is, if you possess glucose level “X” and then engage in a self-control task such as suppressing an urge, then you will rather quickly have glucose level “less than X.” This drop in glucose can be easily confirmed by the use of a glucose meter.

In a depletion experiment, participants engage in a series of multiple self-control tasks—one after the other. Glucose depletes rather markedly, which leads to poor task performance. When participants are forewarned that they will be engaging in a series of multiple self-control tasks (i.e., you will be asked to “think hard” and “override impulses”), the mere anticipation of marshaling forward all the dogged determination that is vigilant self-control was enough to decrease both glucose and task performance (Muraven, Shmueli, & Burkley, 2006).

Energy Replenishment

Self-control depletes glucose, but, knowing this, people can consume glucose in advance of a challenging self-control task by drinking a glass of glucose-rich orange juice, lemonade, or a milkshake. Doing so does significantly help people exert effective self-control (Hagger Wood, Stiff, & Chatzisarantis, 2010). Glucose does not have to be consumed via a sugary drink, but this is the fastest way to get glucose to the brain (as a diabetic will tell you). Low-sugar, high-protein foods (nuts, fruits, fish, meat, cheese) work just as well, but they take longer to produce brain fuel. Such a nutritional effect leads self-control researchers to the practical advice that you eat a good breakfast before embarking on any day that will require a fair amount of self-control.

Self-control depletes glucose, but it does so only when self-control means suppressing an attractive short-term urge (eat sweets, smoke a cigarette, play video games) in order to pursue a less inherently attractive long-term goal (study for hours, complete a long list of chores, control one's temper during a negotiation). Interestingly, glucose depletion and poor performance do not occur

if the person is first placed in a positive mood state, as by watching and laughing with a humorous film (Tice, Baumeister, Shmueli, & Muraven, 2007). Glucose depletion and poor performance also do not occur when people pursue long-term goals that satisfy the psychological needs of autonomy, competence, and relatedness (Muraven, 2008). In fact, long-term goal pursuit that produces episodes of psychological need satisfaction actually vitalizes (increases) energy and performance, rather than depletes them (Moller, Deci, & Ryan, 2006; Muraven, Gagne, & Rosman, 2008).

Self-control strength can also be enhanced through practice (Baumeister, Gailliot, De Wall, & Oaten, 2006). For instance, participants practiced self-control exercises for two weeks by working daily either to monitor and improve their posture or to monitor their food eaten each day (Muraven, Baumeister, & Tice, 1999). Monitoring one's posture requires self-control because one needs to constantly override the habit of slouching (as while sitting, standing); monitoring one's daily food consumption requires self-control because one needs to restrain a "grab and go" eating style. After two weeks of self-control practice, trained participants showed less depletion than did a control group of untrained participants (see also Oaten & Cheng, 2006). Relaxation also buffers people from self-control depletion and self-regulation failure (Tyler & Burns, 2008).

Limited Strength Model of Self-Control

A graphical representation of the limited strength model of self-control appears in Figure 11.9. Effective self-control is the use of willpower to help translate the pursuit of a long-term goal into gain attainment. This core purpose of self-regulation appears in the upper three shaded boxes of Figure 11.9. But self-control is a limited resource that is depleted by suppressing, restraining, and overriding impulses and short-term attractions, as depicted in the thick downward vertical line. Depletion, in turn, predicts and explains long-term goal and self-regulation failure, just as self-control predicts and explains long-term goal attainment and self-regulation success. The limited strength model also explains how self-control might be increased, as through nutritional replenishment and psychological need satisfaction, and also how it might be buffered or toughened up, as through training and practice.

One entry that was not drawn into in Figure 11.9 still needs to be considered and discussed. The upper left of the figure features the box "Pursuit of a Long-Term Goal," but people rather frequently try to pursue more than one long-term goal at a time. College students, for instance, try persistently to achieve academically, but they also at the same time try earnestly and diligently to get their finances in order, repair upset and fragile relationships, and diet to lose weight. So, additional boxes for

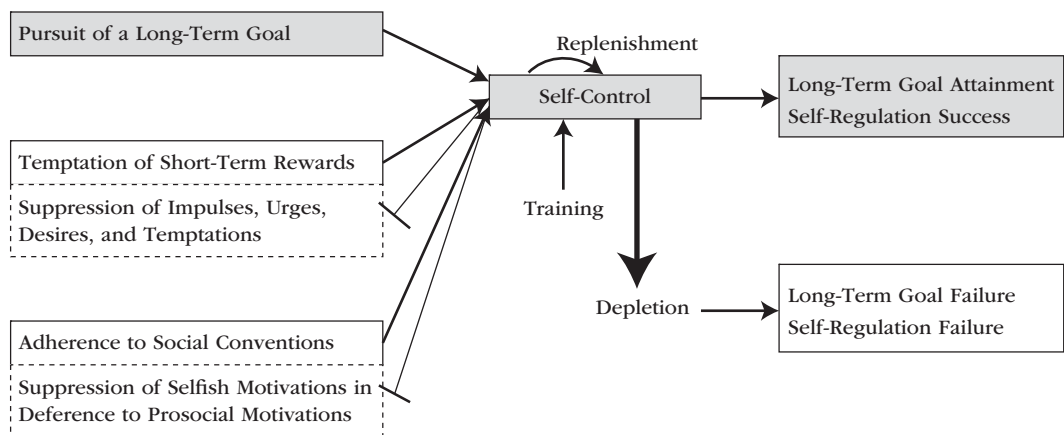


Figure 11.9 Full Limited Strength Model of Self-Control

“Pursuit of Long-Term Goal 2” and “Pursuit of Long-Term Goal 3” could be added to Figure 11.9. The problem with multiple long-term goal pursuit is that it is an all-too-reliable path to self-depletion and self-regulation failure. The problem is that studying for four hours every day necessarily entails effortfully suppressing a lot of short-term urges, desires, and attractions, just as do dieting and staying agreeable with a conflictual and irresponsible interaction partner. It is simply too depleting to pursue multiple long-term goals simultaneously. Research shows that it is best to pursue one long-term goal at a time and to invest one’s limited capacity for self-control toward that single long-term goal (Shmueli & Prochaska, 2009).

Is the Capacity to Exert Self-Control Beneficial to a Successful Life?

The enduring capacity to resist immediate gratification is a personality variable with one of the best track records of predicting who does (and who does not) live a successful life (Mischel, 1974, 2014; Mischel & Ayduk, 2004; Mischel, Shoda, & Peake, 1988). Realizing just how important self-control is in the effort to navigate a successful life began with the humble marshmallow study.

In the marshmallow study, a young child is brought into a room, shown a marshmallow (or cookie, or attractive sweet of his or her choice), and offered the following deal: You may eat the marshmallow whenever you want to, but if you hold off and do not eat the marshmallow and instead wait until I return to the room in 15 minutes, then you will get a second marshmallow to eat along with this one.

When tested on their capacity to delay such immediate gratification, some children ate the marshmallow right away while others were able to wait the full 15 minutes. Then, the researchers waited until all the children were young adults to see how they were doing in terms of academic achievement, peer popularity, physical health, proneness to aggression, susceptibility to various addictions, and other indicators of a successful life. Results were clear. The children who showed high self-control had higher grade point averages, higher standardized test scores, were socially more popular, were objectively healthier, were prosocial rather than antisocial, and were generally free of the abuses of drugs and alcohol, compared to the children who showed low self-control (i.e., immediate gratification). Follow-up research linked trait-like self-control capacity to less relationship conflict (Finkel & Campbell, 2001), less overspending (Vohs & Faber, 2007), less violence (Stucke & Baumeister, 2006), and less obesity (Tangney, Baumeister, & Boone, 2004). These results show the benefits of self-control, but they just as clearly testify to the perils of impulsivity and the lack of self-control capacity.

SUMMARY

Four core problems occupy the self: define the self; relate the self to society; develop personal potential; and regulate the self. This chapter presented these problems as self-concept (define the self), identity (relate the self to society), agency (develop personal potential), and self-regulation (manage the self).

Self-schemas are cognitive generalizations about the self that are domain specific and learned from past experience. The self-concept is a collection of domain-specific self-schemas (e.g., how people mentally represent their personal characteristics in domains such as athletic competence and interpersonal relationships). Self-schemas generate motivation in two ways: the consistent self and the possible self. For the consistent self, self-schemas direct behavior to confirm the self-view and to prevent episodes that generate feedback that might disconfirm that self-view. For the possible self, the individual observes others and proactively forecasts a future possible self that he or she would like to become. Possible selves are higher-order long-term goals in that they energize, direct, and sustain the motivation necessary to develop the present self toward the hoped-for future possible self.

Identity is the means by which the self relates to society, and it captures the essence of who the self is within a cultural context. Once people assume social roles (e.g., mother, teacher), they act to establish, confirm, and restore the cultural meaning of that role-identity. People also have connections to social groups, such as shared affiliations, interests, and values. Identity formation is a process through which the person accepts some of these possible social connections and rejects other possible social connections.

The self goes deeper than cognitive structures (self-concept) in that it has an intrinsic motivation, or agency, of its own. Agency entails personal causation and action from within. Agency-fueled differentiation occurs as the self exercises its intrinsic interests, preferences, and capacities to grow and expand the self into an ever-increasing complexity. Integration occurs as these differentiated parts of the self are brought together into a sense of coherence or unity. The self-concordance model illustrates the motivational and developmental benefits of pursuing life goals that emanate out of personal agency and the integrated self (i.e., intrinsic goals), as intrinsic goals and goal congruence generate enhanced effort and greater psychological well-being.

Self-regulation involves the metacognitive monitoring of one's goal-setting progress. Self-regulation begins with setting a long-term goal and proceeds through planning and strategic thinking, implementing action and self-control, monitoring and checking, and reflecting and revising. Self-regulatory processes are typically acquired and improved upon through a social learning process in which a novice observes, imitates, and then internalizes the competent self-regulatory skills of an expert model. Acquiring a greater capacity for effective self-regulation increases the person's capacity to carry out the goal-setting process on his or her own.

Self-control is the capacity to suppress, restrain, and override an impulsive, short-term urge, desire, or temptation so to pursue a long-term goal. Self-control is quickly depleted while people struggle to override their immediate urges. According to the limited strength model of self-control, the biological basis of self-control is the brain fuel of glucose and the assertion that "no glucose, no willpower." Glucose and the capacity for future self-control are depleted by the exercise of self-control but replenished by nutrition (caloric intake), training, and episodes of positive affect and psychological need satisfaction. Longitudinal research shows rather impressively that the childhood capacity for high self-control predicts a successful life, compared to the life outcomes displayed by children with only a minimal capacity for self-control.

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Part Three

Emotions

Nature of Emotion: Six Perennial Questions

SIX PERENNIAL QUESTIONS

WHAT IS AN EMOTION?

- Definition

- Relation between Emotion and Motivation

 - Emotion as Motivation

 - Emotion as Readout

WHAT CAUSES AN EMOTION?

- Two-Systems View

- Chicken-and-Egg

- What Ends an Emotion?

HOW MANY EMOTIONS ARE THERE?

- Biological Perspective

- Cognitive Perspective

- Reconciliation of the Numbers Issue

 - Emotion Families

 - Basic Emotions and Emotion Schemas

WHAT GOOD ARE THE EMOTIONS?

- Coping Functions

- Social Functions

- Why We Have Emotions

CAN WE CONTROL OUR EMOTIONS?

- Emotion Regulation Strategies

 - Situation Selection

 - Situation Modification

 - Attentional Focus

 - Reappraisal

 - Suppression

WHAT IS THE DIFFERENCE BETWEEN EMOTION AND MOOD?

Everyday Mood

Positive Affect

Conditions that Make Us Feel Good

Benefits of Feeling Good

SUMMARY

READINGS FOR FURTHER STUDY

According to Chinese fortune cookies, the great philosophers, the Bible, Roosevelt (FDR) speeches, Vulcans, and the Dalai Lama, emotions such as anger and fear rarely pay off. Most of the time, these sources say, emotions lead to destructive results. Fear leads to paralysis. Anger leads to shoving and to blurting out words and actions to regret. The suggestion is that we should overcome these meddling emotions. Emotion researchers, in contrast, see these emotions as constructive responses to fundamental life tasks. Fear and anger might feel bad, and they might sometimes steer us astray, but even the hottest of emotions exists as a necessary trade-off in humans' emotion-laden quest for survival, adaptation, and mental health.

Emotion researchers are an open-minded bunch, so they decided to pack their bags, board an airplane to Dharamsala, and visit the Dalai Lama to hear a second opinion about "destructive emotions" (see Goleman, 2003). After all, it does make a good deal of sense to think of some emotions as potentially dangerous. You do not want to be in the same car with an anger-prone driver who fumes, speeds, weaves in and out, and grips the steering wheel like he is strangling the life out of other drivers' throats. This driver could benefit from a chat with the Dalai Lama.

So what wisdom did the Dalai Lama have to offer? A lot, it turns out. Buddhist thought organizes itself around the goal of recognizing, lessening, and then fundamentally transforming destructive emotions, particularly the big three of craving, agitation, and hatred. These emotions apparently are those that are most harmful to self and others. They have their place in survival and adapting to threatening situations, but since saber-toothed tigers are no longer in the neighborhood, anger, fear, and the like may cost us more than they provide in benefits.

Through years of meditation, Buddhist monks learn how to translate their craving into contentment, their agitation into calm, and even their hatred into compassion. In the West, people lessen such negative emotions mostly with medicines (e.g., a pill for anxiety, a drug for depression). In the East, those who practice meditation turn their negative emotions into positive ones, because anger can, potentially, be focused into compassion just as resentment can be willed into love and respect for the other. Our biology has indeed prepared us to act emotionally to important life events, because everyone feels sad with loss and fear with threat. But a lot happens in the split second that occurs between the onset of a threat and the initiation of a constructive or destructive emotional response. Discovering what happens in this split second of time opens up the possibility of being able to translate a biologically destructive reaction into a constructive way of coping. That is what Western emotion researchers learned from the Dalai Lama, and they have been studying what happens during that split second of time ever since.

SIX PERENNIAL QUESTIONS

Emotions arise as reactions to important life events. Once activated, emotions generate feelings, arouse the body to action, generate motivational states, and produce recognizable facial expressions. To understand this process, Chapter 12 discusses the nature of emotion, Chapter 13 focuses on the biological and cognitive events that occur within that split second between life event and emotional response, and Chapter 14 then looks at individual emotions one by one. Here, to understand the

nature of emotion, Chapter 12 asks and answers the following six perennial questions in the study of emotion:

1. What is an emotion?
2. What causes an emotion?
3. How many emotions are there?
4. What good are the emotions?
5. Can we control our emotions?
6. What is the difference between emotion and mood?

WHAT IS AN EMOTION?

Emotions are more complex than first meets the eye. At first glance, we all know emotions as feelings. We know joy and fear because the feeling aspect of these emotions is so salient, so obvious. It may in fact be impossible not to notice emotion's feeling aspect during threat (fear) or during progress toward a goal (joy). But, in the same way that the nose is only part of the face, feelings are only part of the emotion.

Emotions are multidimensional. They exist as subjective, biological, purposive, and expressive phenomena (Izard, 1993; Mauss et al., 2005). In part, emotions are feeling states, because they lead to feeling a particular way, such as angry or joyful. But emotions are also biological reactions—energy-mobilizing response systems that prepare the body for situational adaptation. Emotions are also agents of purpose, much like hunger has purpose, that generate urges and impulses to action. Anger, for instance, creates a motivational impulse to do what we might not otherwise do, such as fight an enemy or protest an injustice. And, emotions are social-expressive phenomena. When emotional, we send recognizable facial, postural, and vocal signals that communicate the quality and intensity of our emotionality to others.

Given the four-part character of emotion, it is apparent that the concept is going to elude a straightforward definition (Izard, 2010; Mulligan & Scherer, 2012). The difficulty in defining emotion might puzzle you at first because emotions seem so straightforward in everyday experiences. Everyone knows what it is like to experience joy and anger, so the reader might ask, “What’s the problem?” (Widen & Russell, 2010) The problem is the following: “Everyone knows what emotion is, until asked to give a definition” (Fehr & Russell, 1984). None of these separate dimensions—subjective, biological, purposive, or expressive—adequately defines emotion. Each of these four dimensions simply emphasizes a different aspect of emotion. To understand and to define emotion, it is necessary to study each of emotion's four dimensions and how they interact with one another.

Emotion's four dimensions (or components) appear in Figure 12.1. The figure shows four boxes, and each box corresponds to a separate aspect. The feeling component gives emotion its subjective experience that has both meaning and personal significance. In both intensity and quality, emotion is felt and experienced at the subjective (or “phenomenological”) level.

The bodily response component includes activation of our neural and biological response systems, including the activity of the brain and endocrine (hormonal) systems as they prepare and regulate the body's adaptive coping behavior during emotion. Brain activation, physiological activation, changes in hormonal activity, and bodily preparation for action are so intertwined with emotion that any attempt to imagine an angry or a disgusted person who is not bodily prepared for action is just not possible. When emotional, our body is prepared for action, and that is true in terms of our brain, physiology (heart rate, epinephrine in the bloodstream), and musculature (alert posture, clenched fist).

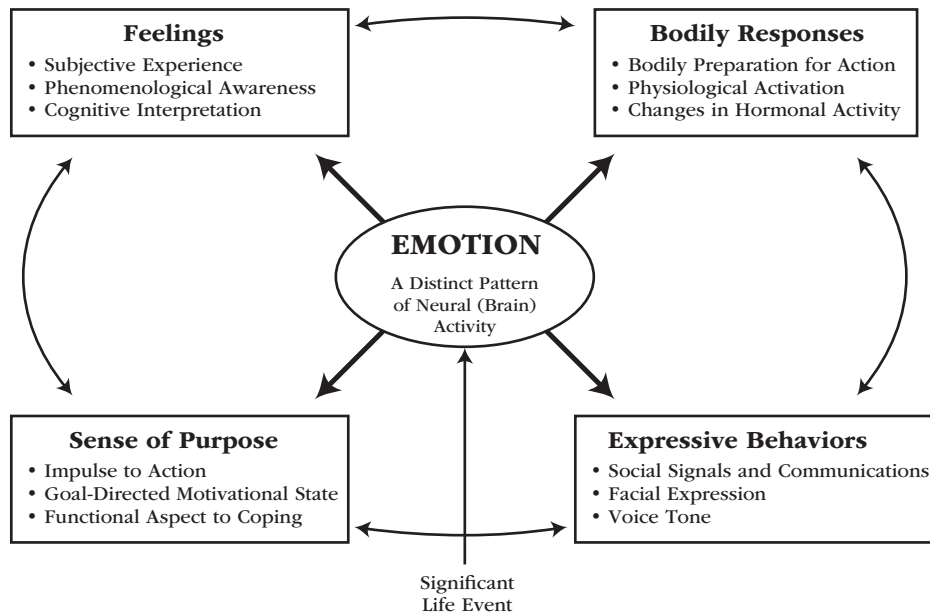


Figure 12.1 Four Components of Emotion

The purposive component gives emotion its goal-directed character to deeply want to take the action necessary to cope with the circumstances at hand. The purposive aspect generates an impulse to action that explains why people want to do what they do during an emotion. Another way of saying this is that different emotions are associated with distinct goals (e.g., with anger, we have the goal to right a wrong; with guilt, we have the goal to apologize) (Zeelenberg, Nelissen, Breugelmans, & Pieters, 2008). Still, another way of saying this is to say that different emotions elicit different “action tendencies” (Frijda, Kuipers, & ter Schure, 1989; Keltner & Gross, 1999).

The expressive behavior component is emotion’s communicative aspect. Through postures, gestures, vocalizations, and facial expressions, our private experiences become public expressions. Through such expressive behavior, we nonverbally signal to others how we feel and how we interpret the present situation. For instance, as a person opens a private letter, we watch her face and listen to the tone of her voice to read her emotions. Emotions therefore engage our whole person—our feelings, bodily arousal, sense of purpose, and nonverbal communications.

Definition

Emotions are short-lived, feeling–purposive–expressive–bodily responses that help us adapt to the opportunities and challenges we face during important life events. Figure 12.1 adds two more emotion features. Emotions arise as responses to the significant events in our lives, so Figure 12.1 includes an activating path from “significant life event” to “emotion.” Figure 12.1 also includes “Distinct pattern of neural (brain) activity” within the concept of emotion to communicate that significant life events produce in us a distinct pattern of brain activity and also that it is this brain activity that gets everything going—that interrupts and changes our attention and information processing (what we are thinking about) to generate, guide, and coordinate the four aspects of emotion depicted in Figure 12.1. Thus, a significant life event occurs and produces a distinct pattern of neural activity that, in turn, generates and coordinates the emotional reaction that is a feeling–purposive–expressive–bodily reaction to that life event.

Defining emotion requires more than a “sum of its parts” definition. A “sum of the parts” approach allows us to describe (rather than define) emotion. As to description, Carroll Izard (2010) asked 34 leading emotion researchers to define the term *emotion*; he pulled together their replies into the following description (Izard, 2010, p. 367):

Emotion consists of neural circuits (that are at least partially dedicated), response systems, and a feeling state/process that motivates and organizes cognition and action.

Emotion also provides information to the person experiencing it, and may include antecedent cognitive appraisals and ongoing cognition including an interpretation of its feeling state, expressions, or social-communicative signals, and may motivate approach or avoidant behavior, exercise control/regulation of responses, and be social or relational in nature.

To define (and not just describe) emotion, we need to draw attention to the four double-sided arrows that link together the four component boxes in Figure 12.1. Emotion is the psychological construct that unites and coordinates these four aspects of experience into a synchronized pattern. That is why the term *emotion* appears in Figure 12.1 as a separate construct from its individual components (i.e., the oval in the center of the figure). Emotion is not any of its individual components but is, instead, what choreographs the feeling, bodily response, purposive, and expressive components into a coherent reaction to an eliciting event. For instance, in the case of fear, the eliciting event might be steep ski slopes, while the reaction includes feelings, bodily responses, goal-directed desires, and all-too-public nonverbal communications. Thus, the threatened skier feels scared (feeling aspect), is “pumped up” (bodily response aspect), strongly desires self-protection (purposive aspect), and shows tensed eyes and pulled-back corners of the mouth (expressive aspect). Fear is what onsets, synchronizes, and coordinates this complex pattern of reactivity to an environmental danger.

This description of what an emotion is highlights how different aspects of experience complement and coordinate with one another (Averill, 1990; LeDoux, 1989; Mauss et al., 2005). For instance, what people feel correlates with how they move the muscles of their face. What they want to do (sense of purpose) coordinates with how bodily prepared they are to do it. Similarly, the way you move your face is coordinated with your physiological reactivity, such that lowering your brow and pressing your lips firmly together coincides with increased heart rate and a raised skin temperature (Davidson et al., 1990). These interrelationships and the intercoordination among the four components of emotion are shown graphically in Figure 12.1 by the thin, curved lines that connect each aspect of emotion to each of the other three aspects. The two-way arrows communicate that changes in one aspect (component) correlate with changes in the other three aspects of emotion.

Figure 12.2 provides a concrete illustration of the otherwise abstract representation shown in Figure 12.1. Using sadness as an example, separation or failure is a common eliciting life event. As an emotional reaction to separation or failure, sadness gets started with brain activity in the medial prefrontal cortex (Pelletier et al., 2003; Phan, Wager, Taylor, & Liberzon, 2002) and, with the onset of sadness, the aversive feeling arises and influences and co-occurs with lethargic bodily responses, with a sense of purpose (to reverse the separation or failure), and the readily recognized sad facial expression. Hence, emotions are the synchronized brain-based systems that coordinate feeling, bodily response, purpose, and expression so to ready the individual to adapt successfully to life circumstances. “Emotion” is the word psychologists use to name this coordinated, synchronized process.

One team of researchers explicitly tested how much versus how little each of emotion’s four components were intercorrelated (Mauss et al., 2005). They had participants view video clips designed to include either joy (watch a puppy playing) or sadness (watch a boy crying over his father’s death). As participants watched one of the video clips—and hence experienced one of the two emotions—researchers recorded second-to-second changes of their feelings, bodily responses (e.g., heart rate), motivational urges, and facial expressions. They then calculated intercorrelations among all possible pairs of these four aspects of emotions (i.e., the curved arrows between the boxes

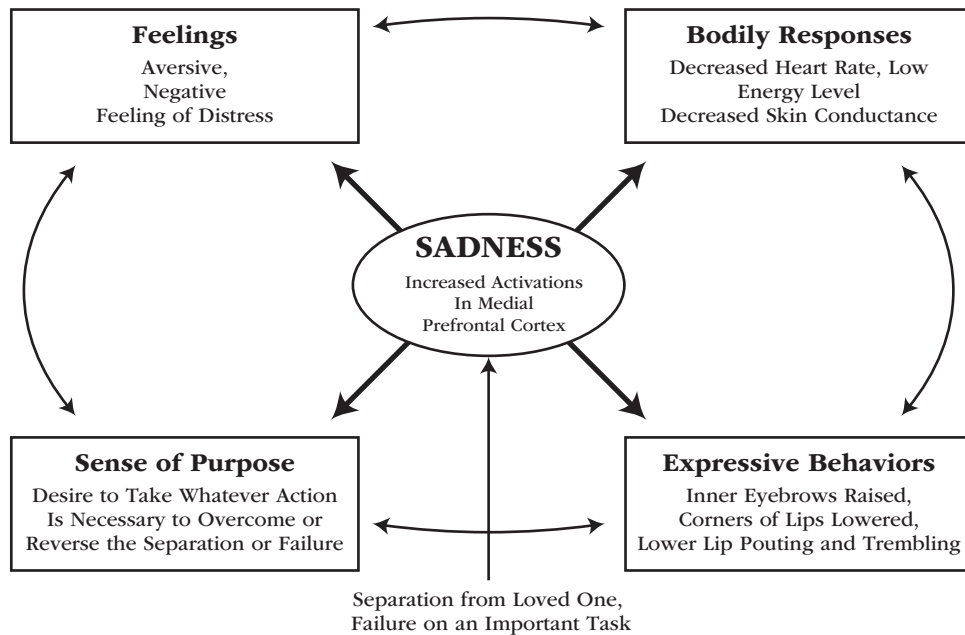


Figure 12.2 Four Components of Sadness

in Figures 12.1 and 12.2). Results showed that all pairs of emotion components were positively intercorrelated and that the correlation between feelings and facial expression was particularly high for both emotions.

With that rather extended introduction, here is Robert Levenson's (1994a, p. 123) answer to the age-old question, "What is an emotion?":

Emotions are short-lived psychological-physiological phenomena that represent efficient modes of adaptation to changing environmental demands.

Relation between Emotion and Motivation

Emotions relate to motivation in two ways. First, emotions are one type of motive. Like all other motives (e.g., needs, cognitions), emotions energize, direct, and sustain behavior. Anger, for instance, energizes subjective, physiological, hormonal, and muscular resources (i.e., energizes behavior) to achieve a particular goal or purpose (i.e., directs behavior), such as overcoming an obstacle to a valued goal. This energy and direction are sustained (persist) until either the eliciting event itself is removed or the anger-motivated coping behaviors successfully change the obstacle into a nonobstacle. From this perspective, emotional reactions fit the Chapter 1 definition of a motive very well (i.e., "those internal processes that give behavior its energy, direction, and persistence").

Second, emotions serve as an ongoing "readout" system to indicate how well or how poorly personal adaptation is going. Joy, for instance, signals social inclusion and goal progress—things are going well, whereas distress signals social exclusion and goal failure—things are going poorly.

Emotion as Motivation

Most emotion researchers conceptualize emotions as motivational states aimed at triggering appropriate behaviors (DeSteno et al., 2004). Some researchers, however, go further. They argue that

emotions constitute the *primary* motivational system (Izard, 1991, 2007; Tomkins, 1962, 1963, 1984). Throughout the 100-year history of psychology, the biological drives (hunger, thirst, sleep, sex, and pain) were considered to be the primary motivators (Hull, 1943, 1952). Air deprivation provides one example. Being deprived of air generates a physiological drive that can capture the person's full attention, energize the most vigorous of action, and direct behavior decidedly toward a single purpose. Accordingly, it seems logical to conclude that air deprivation produces a potent and primary homeostatic motive for taking whatever action is necessary in gaining the air needed to reestablish homeostasis (see Chapter 4). Emotion researcher Silvan Tomkins, however, called this reasoning, this apparent truism, a “radical error.” According to Tomkins (1970), the loss of air produces a strong emotional reaction—one of fear or terror. It is this terror that provides the motivation to act. Thus, the terror, not the air deprivation or threat to homeostasis per se, is the causal and immediate source of the motivated action that follows. Take away the emotion, and you take away the motivation.

Emotion as Readout

Emotions read out the person's ever-changing motivational states and personal adaptation status (Buck, 1988). Positive emotions signal that “all is well” and reflect the involvement and successful satisfaction of our needs and goals; negative emotions act as a warning signal that “all is not well” and reflect the neglect and thwart of our needs and goals (Carver & Scheier, 1998; Frijda, 1986; Oatley & Jenkins, 1992). Positive emotions (interest, joy) during motivated action provide a metaphorical green light for continuing to pursue that goal or need satisfaction; negative emotions (disgust, guilt) provide a metaphorical red light for stopping the pursuit of that goal or need satisfaction. As an illustration, consider sexual motivation and how emotion provides an ongoing progress report (“readout”) that facilitates some behaviors and inhibits others. During attempts at sexual gratification, positive emotions such as interest and joy signal that all is well and facilitate further sexual conduct. Negative emotions such as disgust, anger, and guilt signal that all is not well and inhibit further sexual conduct.

WHAT CAUSES AN EMOTION?

When we encounter a significant life event, an emotion arises, as shown in Figure 12.3. Upon encountering a significant life event (a potential threat, a potential opportunity), the brain processes this event with a distinct pattern of neural activity (LeDoux, 2012; Panksepp, 1998). For example, walking into the dark leads to amygdala activation that instigates fear. This brain activity sets in motion the cognitive and biological processes that collectively generate, guide, and coordinate the critical components of emotion, including feelings, bodily responses, goal-directed purpose, and expressive behavior.

In the effort to explain what causes an emotion, many different viewpoints come into play, including those that are biological, evolutionary, neuroscientific, psychophysical, cognitive, clinical,

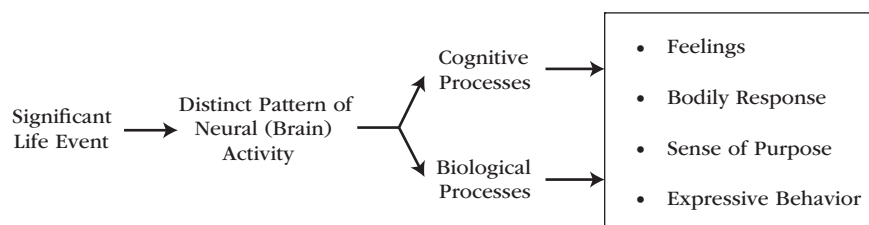


Figure 12.3 Causes of the Emotion Experience

developmental, psychoanalytical, social, sociological, and cultural. Despite this diversity, most of the answer to this question revolves around one central debate: biology versus cognition. Together, as we shall see in Chapter 13, the cognitive and biological perspectives provide a relatively comprehensive picture of the emotion process. Nonetheless, acknowledging that both cognitive and biological aspects underlie emotion begs the question as to which is primary: biological or cognitive factors (Lazarus, 1982, 1984, 1991a, b; Scherer & Ekman, 1984; Zajonc, 1980, 1981, 1984). If emotions are largely biological, they should emanate from a causal biological core, such as subcortical brain circuits. For the biological theorist, emotions can and do occur without a prior cognitive event, but they cannot occur without a prior biological event. Biology, not cognition, is therefore primary. If emotions are largely cognitive, however, they should emanate from causal mental events, such as appraisals and interpretations of what the situation means. For the cognitive theorist, individuals cannot respond emotionally unless they first cognitively appraise the meaning and personal significance of an event: Is the event important to me? Is it relevant to my well-being? Interpretative cognitive appraisal, not biology, is therefore primary.

So, which side is correct? Or, which side is more correct? Emotion researchers have struggled for answers to this “What causes an emotion?” question, and two helpful answers have emerged.

Two-Systems View

One answer is that both cognition and biology cause emotion. According to Buck (1984), human beings have two synchronous systems that activate and regulate emotion. The two systems are parallel yet interactive.

One system is an innate, spontaneous, biologically driven system that reacts automatically and involuntarily to emotional stimuli. This physiological emotion system came first in humankind’s evolution (i.e., the subcortical brain). A second system is an experience-based cognitive system that reacts interpretatively by evaluating the meaning or personal significance of the emotional stimuli. The cognitive emotion system came later as human beings became increasingly cerebral and social (i.e., the cortical brain). Together, the primitive biological system and the contemporary cognitive system combine to provide a highly adaptive, two-system emotion mechanism.

The two-system view appears in Figure 12.4 (Buck, 1984). The lower system is biological and traces its origins to the ancient evolutionary history of the species. Sensory information is processed rapidly, automatically, and unconsciously by the subcortical brain structures and pathways. The

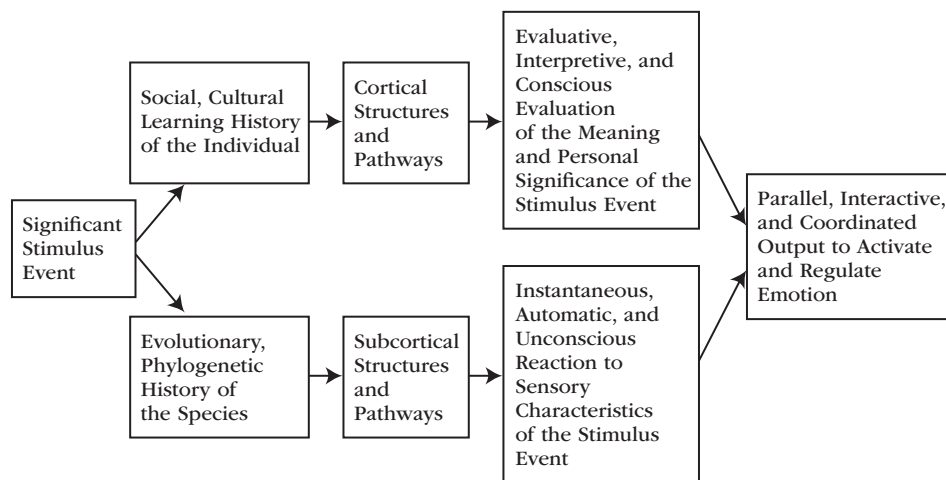


Figure 12.4 Two-Systems View of Emotion

second system is cognitive and depends on the unique learning history of the individual. Sensory information is processed evaluatively, interpretatively, and consciously by the cortical pathways. The two emotion systems are complementary (rather than competitive) and work together to activate and regulate emotional experience.

Robert Levenson (1994a) takes the two-system view of emotion a bit farther by hypothesizing how the biological and cognitive emotion systems interact. The biological system serves the basic problems by generating time-tested and highly automatic ways of generating emotion (i.e., general emotional reactions), while the cognitive system is flexible and open to learning and personal experience so that it can generate emotion to solve novel and situationally specific problems (Levenson, 1999). Instead of existing as parallel systems, the two systems influence, complement, and back up one another. Panksepp (1994) adds that basic emotions such as fear, anger, and disgust arise primarily from the biological system (from the subcortical structures and pathways in Buck's [1984] terminology). Other emotions such as gratitude, hope, and resentment arise primarily from personal experience, social modeling, and cultural contexts. These emotions arise primarily from the cognitive system's appraisals, expectancies, and attributions (from the cortical structures and pathways in Buck's terminology).

Chicken-and-Egg

Robert Plutchik (1985) sees the cognition versus biology debate as a chicken-and-egg quandary. Emotion should not be conceptualized as cognitively caused or as biologically caused. Rather, emotion is a process, a chain of events that aggregate into a complex feedback system. The elements in Plutchik's feedback loop are cognition, arousal, feelings, preparations for action, expressive displays, and overt behavioral activity (i.e., recall the multidimensional aspects of emotion from Figures 12.1 and 12.2). One possible representation of Plutchik's emotion feedback loop appears in Figure 12.5. The recursive feedback system begins with a significant life event and concludes with emotion. Mediating between event and emotion is a complex interactive chain of events. To influence emotion, one can intervene at any point in the feedback loop. Change the cognitive appraisal from "this is beneficial" to "this is harmful," and the emotion will change. Change the quality of the arousal (as through exercise, a drug, or mediation), and the emotion will change. Change bodily expression (e.g., facial musculature, bodily posture), and the emotion will change, and so on.

Plutchik's (1985) solution to the cognition–biology debate enters into the complex world of dialectics, in which each aspect of emotion is both cause and effect and the final outcome is due to the dynamic interplay among the six forces in the figure. The most important theme to extract from a

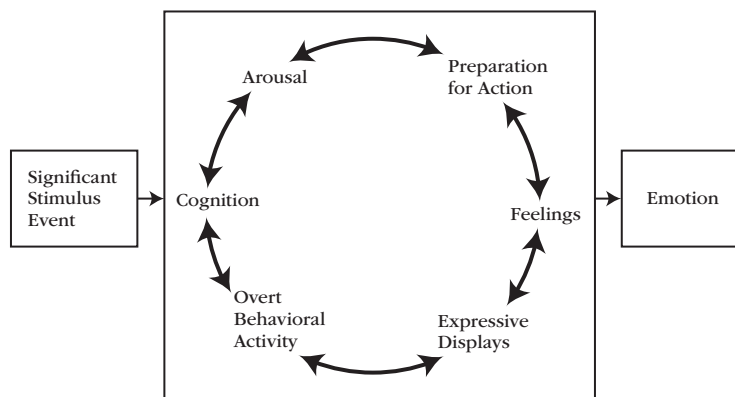


Figure 12.5 Feedback Loop in Emotion

chicken-and-egg analysis is that cognitions do not directly cause emotions any more than biological events do. Together, cognition, arousal, preparation for action, feelings, expressive displays, and overt behavioral activity constitute the cauldron of experience that causes, influences, and regulates emotion. Others echo this emotion-as-a-process view by emphasizing that all emotional experiences exist as episodes that occur over time, as the different components continually rise and fall and exert influences on one another (Scherer, 1994b, 2013).

What Ends an Emotion?

Emotions arise as reactions to significant life events and to the biological and cognitive processes that significant life events set in motion. Emotions end, on the other hand, for two reasons.

First, emotions end upon the removal of the significant life event. If looking at a needle in the doctor's office makes us feel fear, then walking out of the doctor's office and leaving the needle behind is a good way to end the fear (although emotion-eliciting events can recur and hence reactivate the emotion; Verduyn et al., 2009). Similarly, when circumstances perceived as unjust and unfair are revised to be just and fair, then our initially aroused anger appropriately fades away—because the eliciting event of unfair treatment no longer exists (Lerner, Goldberg, & Tetlock, 1998). Second, emotions generate coping behaviors, and these coping behaviors are often successful in managing and altering the significant life event. That is, upon seeing a spider, people often feel fear. But opening the window and tossing the spider out will fundamentally change (remove) the fear. Here, the coping action of tossing the spider out the window is what brings the fear to its end. Either way, what ends an emotional episode is the removal of the significant life event.

HOW MANY EMOTIONS ARE THERE?

The cognition–biology debate indirectly raises another important question: How many emotions are there? A biological orientation emphasizes basic emotions (e.g., anger, fear) and downplays the importance of secondary or acquired emotions. A cognitive orientation acknowledges the importance of the basic emotions, but it stresses that much of what is interesting about emotional experiences arises from individual, social, and cultural experiences. A cognitive orientation emphasizes the complex (secondary, acquired) emotions. Ultimately, any answer to the “How many emotions are there?” question depends on whether one favors a biological or a cognitive orientation.

Biological Perspective

The biological perspective typically emphasizes basic emotions, with a lower limit of two (Solomon, 1980) or three (Gray, 1994) to an upper limit of eight (Plutchik, 1980). Each biological theorist has a very good reason for proposing a specific number of emotions, although each proposal is based on a different emphasis. Ten major research traditions in the biological study of the emotions can be offered to represent the biological perspective on emotions. Table 12.1 organizes these 10 biological perspectives side by side by listing the specific number of basic emotions proposed by each theorist, the rationale for that proposal, the theorist's name(s), and a supportive reference citation for further reading. Richard Solomon (1980) identifies two hedonic, unconscious brain systems that exist such that any pleasurable experience is automatically and reflexively opposed by a counter-aversion experience, just as any aversive experience is automatically and reflexively opposed by a counter-pleasurable process (e.g., fear is countered by, and quickly replaced by, the “opponent process” of euphoria, as during sky diving).

Jeffrey Gray (1994) proposes three basic emotions based on the number of separate anatomical brain circuits he identified: the behavioral approach system (joy), the fight-or-flight system (anger/fear), and the behavioral inhibition system (anxiety).

Table 12.1 Number of Basic Emotions Specified by 10 Biologically Oriented Emotion Theorists

| Number of Emotions | Rationale for That Proposed Number of Basic Emotions | Supportive Reference |
|--------------------|--|---------------------------|
| 2 | Hedonic, unconscious “opponent” brain systems | Solomon (1980) |
| 3 | Animal brain circuits | Gray (1994) |
| 4 | Essential life pursuits | Stein and Trabasso (1992) |
| 5 | Brain circuits | Vytal and Hamann (2010) |
| 6 | Patterns of neural firing | Tomkins (1970) |
| 6 | Hardwired solutions to survival-relevant challenges | Levenson (2011) |
| 7 | Criteria specified by differential emotion theory | Izard (2011) |
| 7 | Brain circuits | Panksepp (1998) |
| 7 | Emotion families | Ekman and Cordaro (2011) |
| 8 | Emotion–behavior syndromes | Plutchik (1980) |

Nancy Stein and Tom Trabasso (1992) stress the four emotions of happiness, sadness, anger, and fear because these emotions reflect reactions to life’s essential pursuits: attainment (happiness), loss (sadness), obstruction (anger), and uncertainty (fear). Here the number of emotions is based on the number of key life events that activate the emotion.

Katherine Vytal and Stephan Hamann (2010) identify five emotions—happiness, sadness, fear, anger, and disgust, because of their analysis of about 100 different neuroimaging brain studies. They find that these five emotions produce distinct patterns of brain activity.

Silvan Tomkins (1970) distinguishes six emotions—interest, fear, surprise, anger, distress, and joy—because he finds that six distinct patterns of neural firing produce these different emotions. For instance, interest is a gradual increase in the rate of neural firing, fear is a rapid increase in the rate of neural firing, and surprise is a sudden surge in the rate of neural firing.

Robert Levenson (2011) also suggests six basic emotions—enjoyment, anger, disgust, fear, surprise, and sadness—because that is how many emotions are distinct, hardwired, and functional in that each basic emotion is a general solution to a particular survival-relevant challenge.

Carroll Izard (1991) lists seven emotions on the basis of the criteria specified for a basic emotion within his differential emotions theory: interest, joy, sadness, anger, disgust, surprise, and fear. To identify the basic emotions, he pays particularly close attention to the emotions of infants, as infants clearly show a limited number of discrete emotions despite their rather serious cognitive shortcomings (i.e., limited by no language, vocabulary, or memory).

Jaak Panksepp (1998) proposes seven emotions—seeking, fear, anger/rage, lust, care, sadness/grief, and play. His proposal is based on the finding of seven separate neuroanatomical, emotion-generating pathways within the subcortical brain.

Paul Ekman (Ekman & Cordaro, 2011) proposes seven basic emotions—fear, anger, sadness, surprise, disgust, happiness, and contempt. His list of emotions features this particular number because each is associated with a corresponding universal (cross-cultural) facial expression. These emotions also have very rapid onsets, brief durations, and can occur automatically/involuntarily.

Finally, Robert Plutchik (1980) lists eight emotions—anger, disgust, sadness, surprise, fear, acceptance, joy, and anticipation. Each of these emotions corresponds to an emotion–behavior syndrome common to all living organisms (e.g., fear corresponds to protection, as will be discussed in Table 12.2).

Each of these 10 research traditions agrees that (1) a small number of basic emotions exist, (2) basic emotions are universal to all human beings (and animals), and (3) basic emotions are products of biology and evolution. All these theorists also argue that when we are experiencing an emotion, a cascade of automatic changes occur—with or without our awareness or consent, because

Table 12.2 Functional View of Emotional Behavior

| Fundamental Life Task | Emotion | Coping Function (Purpose of the Emotion) |
|--------------------------------|----------|--|
| Goal progress, attainment | Joy | Soothe, play |
| Separation or failure | Sadness | Reverse the separation or failure |
| Interference with goal pursuit | Anger | Overcome barriers and restrictions |
| Threat or danger present | Fear | Protect, avoid |
| Spoiled object | Disgust | Repulsion |
| Novelty, need-involvement | Interest | Explore, take in information |
| Achievement | Pride | Acquire skills, persist |
| Judging another as inferior | Contempt | Maintain the social hierarchy |
| Feelings of inferiority | Shame | Protect, restore the self |
| Behaving inadequately | Guilt | Reconsider and change that behavior |

hardwired events emerge in our feelings, in our face, in the tone of our voice, within our autonomic nervous and endocrine systems, in our motivational urges, and in our thoughts and memories. Where the 10 traditions diverge is in their specifications of what constitutes the precise biological core that onsets and orchestrates emotional experience.

Cognitive Perspective

The cognitive perspective asserts firmly that human beings experience a greater number of emotions than the half-dozen or so highlighted by the biological tradition. Cognitive theorists grant that, yes of course, there are only a limited number of neural brain circuits, essential life pursuits, and hardwired reactions to survival-relevant challenges. They point out, however, that several different emotions can arise from the same biological reaction. For instance, a single physiological response, such as a rapid rise in heart rate and blood pressure, can serve as the biological basis for anger, jealousy, or envy. High blood pressure and an appraisal of injustice produce anger; high blood pressure and an appraisal that one's relationship is in peril produce jealousy; and high blood pressure and an appraisal that another person is in a superior position produce envy. In each case, the biology is the same, but the emotions are different because the cognitive activity is different.

Instead of specifying a specific number of basic emotions (e.g., from 2 to 8) like the biologically oriented emotion theorists, cognitive emotion theorists argue that cognitive activity is a necessary prerequisite to emotion and, because this is so, an almost limitless number of emotions exist. This is so because all cognitive theorists share the assumption that "emotions arise in response to the meaning structures of given situations; different emotions arise in response to different meaning structures" (Frijda, 1988). How the cognitive theories of emotion differ is in how they portray the way people generate and interpret the meaning of a situation. That is, a life event occurs, a split second of time follows, and then some cognitively informed and situationally appropriate emotional reaction follows. In that split second of time, different cognitive emotion theories have identified a variety of different cognitive appraisals that take place to generate the emotion (Arnold, 1960; Ellsworth, 2013; Frijda, 2007; Lazarus, 1991a; Oatley & Johnson-Laird, 1987; Ortony, Clore, & Collins, 1988; Roseman, 1984; Scherer, 2009; Smith & Ellsworth, 1985; Weiner, 1986). Notice in the list of references in the previous sentence that 10 different cognitively oriented emotion theories and their distinct programs of research can be identified to represent a cognitive perspective on emotion. Each of these research traditions will be featured in Chapter 13.

Richard Lazarus was a pioneer in the cognitive perspective to understanding emotion, and his basic argument was that without an understanding of the personal relevance of an event's potential impact on personal well-being, there is no reason to respond emotionally. Stimuli appraised as irrelevant do not elicit emotional reactions. For Lazarus (1991a, b), the individual's cognitive

appraisal of the meaning of an event (rather than the event itself) sets the stage for emotional experience. That is, a car passing you in traffic is not likely to call up your fear or shame unless its way of passing leads you to think that your well-being or self-image has in some way been put at risk. The emotion-generating process begins not with the event and not with one's biological reaction to it, but instead with the cognitive appraisal of its personal meaning.

Reconciliation of the Numbers Issue

Everyone—biologically and cognitively minded researchers—agrees that there are dozens of emotions. Everyone agrees that guilt and pride and gratitude are emotions; the biologically minded emotion theorist simply argues that these are not basic emotions. The debate therefore centers on whether some emotions are more basic or more fundamental than are others (Ekman & Davidson, 1994). One way to reconcile this debate is to argue that each basic emotion is not a single emotion but rather is a *family* of related emotions (Ekman, 1994a; Ekman & Cordaro, 2011). A second way to reconcile this debate is to distinguish first-order emotions (basic emotions) from second-order emotions (cognitively enriched emotion schemas) (Izard, 2011).

Emotion Families

Reconciliation strategy #1 argues that each basic emotion is not a single emotion but, rather, is a family of emotions that revolve around a particular theme. For instance, anger is a basic emotion, but anger is also a family of emotions that includes all emotions related to a “destroy obstacles” theme—namely, hostility, rage, fury, outrage, annoyance, resentment, envy, and frustration (see Figure 13.8 in the next chapter). Similarly, joy is a basic emotion, but joy is also a family of emotions that includes all emotions related to a “making progress on a goal” theme—namely, satisfaction, relief, enthusiasm, contentment, amusement, and pride. Each member of a family shares many of the characteristics of the basic emotion—its physiological bodily preparation, its subjective feeling state, its expressive signals, and its motivational urge to action (recall Figure 12.2). There are a limited number of these basic emotion families rooted in biology and evolution (as argued by the biologically minded theorists), but also there are a number of variations of these basic emotions via learning, socialization, and culture (as argued by the cognitively minded theorists).

Emotion families can also be understood from a cognitive perspective. An analysis of the English language led one group of researchers to conclude that emotion knowledge involves five basic emotion families: anger, fear, sadness, joy, and love (Shaver Schwartz, Kirson, & O'Connor, 1987). While a child's emotional repertoire might include only anger, fear, sadness, joy, and love, greater experience and socialization allow the child to learn increasingly finer distinctions within the causes and consequences of these five basic emotions. The child learns that different situations give rise to different variations of the basic emotion. For instance, it takes learning, experience, and socialization to understand all the following varieties of fear: alarm, shock, fright, horror, terror, panic, hysteria, mortification, anxiety, nervousness, tension, uneasiness, apprehension, worry, dread, and perhaps others. Thus, fear is the basic emotion, while greater sophistication with different types of situations, with different interpretations of situations, and with language, social interaction, and enculturation lead to fear variations as secondary emotions.

Any answer to the question of how many emotions there are forces one to commit to a level of specificity (Averill, 1994), which means that emotions can be conceptualized at a general level such as a family (e.g., anger) or at a situation-specific level (e.g., hostility, envy, frustration). The specific characteristics of a basic emotion include the following (based on Ekman, 1992; Ekman & Davidson, 1994; Ekman & Cordaro, 2011). All basic emotions feature a(n):

1. Distinct facial expression
2. Distinct pattern of physiology

3. Automatic (unlearned) appraisal
4. Distinct antecedent cause
5. Inescapable (inevitable) activation
6. Presence in other primates
7. Rapid onset
8. Brief duration
9. Distinct subjective experience (feeling state)
10. Distinct cognition (thoughts, images, memories)

Using these criteria, Ekman and Cordaro (2011) argue that the following seven basic emotions meet all the criteria to warrant the status of a basic emotion that serves as the foundational starting point for the development of an emotion family: anger, fear, surprise, sadness, disgust, happiness, and contempt. Several other emotions come close to meeting the aforementioned 10 qualifying criteria, but they only meet most—not all—of the aforementioned criteria. Included in this “almost basic emotion” category are guilt, shame, embarrassment, interest, love, and hate.

Upon seeing a list of emotions that includes only anger, fear, surprise, sadness, disgust, happiness, and contempt, one is likely to ask the question, “Where are emotions like jealousy, hope, anxiety, depression, aggression, and worry?” Biologically minded theories generally do not consider these basic emotions for the following reasons (Ekman, 1992):

1. Many emotions are experienced-based derivatives of a basic emotion (e.g., anxiety is a derivative of fear).
2. Many emotion terms actually better describe moods (e.g., irritation).
3. Many emotion terms actually better describe attitudes (e.g., hatred).
4. Many emotion terms actually better describe personality traits (e.g., hostile).
5. Many emotion terms actually better describe disorders (e.g., depression).
6. Some emotions are blends of basic emotions (e.g., romantic love blends interest, joy, and the sex drive).
7. Many emotion terms refer to only one specific aspect of a basic emotion (e.g., what elicits the emotion [homesickness] or what behavior is associated with it [aggression]).

Basic Emotions and Emotion Schemas

Reconciliation strategy #2 is to distinguish between the first-order and the second-order stage in the lifelong development of a basic emotion. Basic emotions can be conceptualized as subcortical brain circuits that are rooted in evolutionary adaptation to major life tasks that have automatic connections with feelings, expressions, bodily preparations, and motivational action tendencies (Barrett, 2006; Izard, 2007). In his differential emotions theory, Carroll Izard (1991, 2007, 2009, 2011) postulates that basic emotions can be identified by meeting seven criteria. Each basic emotion:

1. Is present at birth or emerges during infancy.
2. Requires only simple or minimal cognitive processing for its activation.
3. Is derived through evolutionary processes.
4. Features a unique feeling state: Its own unique subjective, phenomenological quality.
5. Features a unique expression: Its own unique facial-expressive signal.
6. Features a unique function: It serves its own unique purpose.
7. Features a unique motivational force important to survival and well-being.

The six basic emotions that fulfill each of these seven postulates from differential emotions theory are interest, joy (enjoyment, happiness, contentment), sadness, anger, disgust, and fear. Izard remains ambivalent about the inclusion/exclusion of a seventh emotion—namely contempt. Unlike all other biologically oriented emotion theorists, Izard (2007, 2011) proposes that people infrequently experience these six or seven basic emotions after early childhood. Instead, these basic emotions serve as developmental building blocks for more complex emotions (second-order) termed *emotion schemas*. After childhood, emotion schemas serve as the principal motivational and regulatory system for the person's behavior and action.

Emotion schemas develop out of a dynamic interplay among basic emotions, cognitive appraisals, and higher-order cognition (e.g., self-concept, emotion knowledge). After early development, emotion schemas—but not basic emotions per se—function as the central source of human motivation (Izard, 2007), because basic emotions combine with cognition to produce complex emotion schemas. The sadness emotion schema, for instance, retains the core sad feeling, but it also adds sad-related and experience-based thoughts and memories. Such an emotion schema might be activated by an experience of loss or failure, but it might also be activated by appraisals, memories, past learning experiences, thoughts, images, and information processing more generally. While the feeling, expression, action tendency, and bodily preparations are developmentally constant elements of any emotion schema, the content of an emotion schema changes over time.

Thus, Carroll Izard's reconciliation of the numbers question is to recognize two categories of emotion—first-order basic emotions and second-order emotion schemas. Infants start with a full repertoire of pure first-order basic emotions and no second-order emotion schemas, while adults possess no first-order basic emotions and a full repertoire of second-order emotion schemas. The number of emotion schemas the adult's uses to interact with the world is a large number, and that number is determined by the richness of the person's experience, cognition, and emotion differentiation.

WHAT GOOD ARE THE EMOTIONS?

While feeling the angst of sadness, anger, shame, pity, embarrassment, or jealousy, people understandably ask themselves, "What purpose do emotions serve—what good are they?" It is not uncommon for people who feel aversive emotions to wish that their emotion would just go away and leave them alone. Who wants to feel sad? Who wants to feel ashamed? Most people would agree that the experiences of anger and guilt and embarrassment are unpleasant and are not something to strive for. Still, experiences of these negative-feeling emotions do have positive consequences.

Work on the utility or function of emotion began with Charles Darwin's *The Expression of Emotions in Man and Animals* (1872), a less famous effort than his 1859 work on the evolution of species. In his work on emotions, Darwin argued that emotions help animals adapt to their surroundings. Displays of emotion help adaptation much in the same way that displays of physical characteristics (e.g., height) do. For example, the dog baring its teeth in defense of its territory helps it cope with hostile situations (by warding off opponents). Such expressiveness is functional, and emotions are therefore candidates for natural selection.

Coping Functions

Emotions do not just occur out of the blue. They occur for a reason. From a functional point of view, emotions evolved because they helped animals deal with fundamental life tasks (Ekman, 1994a; Levenson, 2011; Plutchik, 1970, 1980; Tooby & Cosmides, 1990). To survive, animals must explore their surroundings, vomit harmful substances, develop and maintain relationships, attend immediately to emergencies, avoid injury, reproduce, fight, and both receive and provide caregiving. Each of these behaviors is emotion produced, and each facilitates the individual's adaptation to changing physical and social environments.

Fundamental life tasks are universal human predicaments, such as loss, threat, and achievement (Johnson-Laird & Oatley, 1992). The emotion during a life task energizes and directs behavior in adaptive ways (e.g., after goal interference, assertively confronting and overcoming the barrier or restriction proved more effective than did other courses of action). Of course, there are many possible ways of coping, so what emotions functionally do is to prioritize some ways of acting over other ways of acting (e.g., “Do this!”) to optimize the individual’s capacity to adjust to the changes in the physical and social environment (Keltner & Gross, 1999). That is, emotion and emotional behavior provide animals with ingrained and automated ways for coping with major challenges and threats to their welfare (Tooby & Cosmides, 1990). In short, emotions are primitive (yet functional) action control systems (Panksepp, 1998).

As shown in Table 12.2, emotions serve at least 10 distinct purposes. When something happens to interfere with the pursuit of an important goal, we feel anger—the functional purpose of which is to overcome that barrier or restriction. When we encounter a threatening or dangerous situation, we feel fear—the functional purpose of which is to protect the self, as by defending, feeling, or avoiding. When we behave in a socially inadequate way, we feel guilt—the functional purpose of which is to prompt us to reconsider that behavior and to change it into something more adequate. For every major life task, human beings evolved a corresponding, adaptive emotional reaction. The function of emotion is therefore to prepare us with an automatic, very quick, and historically successful response to life’s fundamental tasks.

The logic and line of reasoning that underlies a functional perspective on emotion is this: There is no such thing as a “bad” emotion. Joy is not necessarily a good emotion, and anger and fear are not necessarily bad emotions. *All* emotions are beneficial because they direct attention and channel behavior to where it is needed, given the circumstances one faces. Any one person might not wish to feel anger, disgust, or fear, but it sure is handy to have the motivational readiness to fight when you need to, reject when you need to, and explore when you need to. From this point of view, fear, anger, disgust, sadness, and all other emotions are good. Situations and circumstances might be bad—but not the emotional reaction per se. Anger turns us into activists who are ready to change injustice into justice (Solomon, 1990), just as fear motivates protection, disgust motivates rejection, and so forth. Even embarrassment is functionally good, because it helps the person maintain a positive self-image in the eyes of the audience in the moments that immediately follow a social blunder (Semin & Manstead, 1982). Emotions are therefore positive, functional, purposive, and adaptive organizers of behavior (Frijda, 1986).

While it is justified to emphasize the function of emotion-motivated behaviors, some researchers rightly point out that there are times and circumstances in which acting on one’s emotion is problematic (Parrott, 1995, 2001). Emotions such as distress can lead people to engage in behaviors that seem to make sense in the moment (e.g., drinking excessively, arguing or yelling at a coworker) but create long-term costs (Baumeister Heatherton, & Tice, 1994).

Other biologically oriented emotion researchers stress is greater flexibility in emotional ways of coping than is otherwise apparent from Table 12.2 (Frijda, 1994). That is, while fear essentially motivates protective behavior, it also readies us for additional and more flexible actions, including preventing the dangerous event from occurring in the first place or suppressing activity until the threat passes. Individual experience and cultural learning over time greatly expand the behavioral actions and strategies that can successfully serve the “Coping Function” column in Table 12.2. This increased flexibility is important because it makes it clear that emotional responses are more flexible than are reflexes (Scherer, 1984b).

Social Functions

In addition to serving coping functions, emotions serve social functions (Izard, 1989; Keltner & Haidt, 1999; Manstead, 1991; Rime, 2009). The assumption is that people are social by nature.

Being social, emotions play a functional role in helping people navigate their social interactions and interpersonal relationships to solve important social problems. Emotions:

1. Communicate feelings to others.
2. Influence how others interact with us.
3. Invite, smooth, and facilitate social interaction.
4. Create, maintain, and dissolve relationships.

Emotional expressions are potent, nonverbal messages that communicate our feelings to others. Through emotional expressions, infants nonverbally communicate what they cannot communicate verbally, as through the face (Fridlund, 1992), voice (Scherer, 1986), and emotional behavior in general (Huebner & Izard, 1988). At birth, infants are capable of expressing joy, interest, and disgust; by two months, infants can also express sadness and anger; and by six months, infants can express fear (Izard, 1989). Throughout infancy, interest, joy, sadness, disgust, and anger represent almost 100 percent of emotion-based facial expressions (Izard et al., 1995). Caregivers reliably recognize and can accurately interpret these facial expressions (Izard et al., 1980). Infant facial expressions therefore guide caretakers' emotion-specific care (Huebner & Izard, 1988).

The emotional expressions of one person can prompt selective behavioral reactions from a second person (Camras, 1977; Coyne, 1976a, b; Frijda, 1986; Klinnert et al., 1983). In a conflict situation over a toy, for instance, a child who expresses anger or sadness is much more likely to keep the toy than is a child who expresses no such emotion (Camras, 1977; Reynolds, 1982). The emotional expression nonverbally communicates to others what one's probable forthcoming behavior is likely to be (Keltner & Haidt, 1999). If the toy is taken away, the anger-expressing child communicates a probable forthcoming attack, whereas the sadness-expressing child communicates a probable barrage of tears. The signal that one is likely to attack or cry often succeeds in regaining the lost toy (or preventing the toy from being taken in the first place). Hence, in the context of social interaction, emotions serve multiple functions, including informative ("This is how I feel"), forewarning ("This is what I am about to do"), and directive ("This is what I want you to do") functions (Ekman, 1993; Schwartz & Clore, 1983). In this way, emotional expressions communicate social incentives (joy smile), social deterrents (angry face), and unspoken messages (embarrassment face) that smooth and coordinate social interactions (Fernald, 1992; Keltner & Buswell, 1997; Tronick, 1989).

Emotional expressions are also used to invite, smooth, and facilitate social interaction. Ethnologists studying smiling in primates found that chimpanzees use the voluntary smile sometimes to deflect potentially hostile behavior from dominant animals and other times to maintain or increase friendly interactions (van Hooff, 1962, 1972). Just as primates smile (bare their teeth) to appease dominants, young children smile when approaching a stranger, and children are more likely to approach a stranger who smiles than a stranger who does not smile (Connolly & Smith, 1972). Adults who are embarrassed socially are also likely to smile or at least to show a goofy grin on their face (Harris, 2006). In addition, the smile is a universal greeting display (Eibl-Eibesfeldt, 1972; van Hooff, 1972) that seems to say, nonverbally, "I am friendly; I would like us to be friends." In each of these instances, smiling is socially, rather than emotionally, motivated.

The idea that a smile can be socially motivated leads to the question of whether smiling is typically an emotional expression of joy or a social expression of friendliness (Fernandez-Dols & Ruiz-Belba, 1995; Kraut & Johnston, 1979). To test this hypothesis, Robert Kraut and Robert Johnston (1979) observed people smiling while bowling, while watching a hockey match, and while walking down the street. The researchers wondered whether people smiled more often when engaged in social interaction or when experiencing a joy reaction to a positive event (a good bowling score, a goal for their hockey team, sunny weather). Generally speaking, bowlers, spectators, and pedestrians were more likely to smile socially (to smooth social interactions) than they were to smile emotionally (in response to positive outcomes).

Just as the emotional expressions of interest and joy bring people together and encourage interaction (Abe & Izard, 1999), emotional expressions of anger, disgust, and fear push people apart. Contempt is an especially toxic emotion that dissolves relationships (Gottman, 1994).

Why We Have Emotions

Life is full of challenges, stresses, and problems to be solved, and emotions exist as solutions to these challenges, stresses, and problems. By coordinating and orchestrating feelings, arousal, purpose, and expression, emotions “establish our position vis-à-vis our environment” (Levenson, 1999) and “equip us with specific, efficient responses that are tailored to problems of physical and social survival” (Keltner & Gross, 1999).

Some argue that emotions serve no useful purpose. They argue that emotions disrupt ongoing activity, disorganize behavior, and rob us of our rationality and logic (Hebb, 1949; Mandler, 1984). These emotion researchers grant that while emotions served important evolutionary functions thousands of years ago, they no longer do so in the modern world (Buss et al., 1998). This position stands in stark contrast to the assertion that emotions prioritize behavior in ways that optimize adjustment to the demands we face. Everyone agrees that emotions affect the way we think, feel, and behave. So, the question hinges on whether emotions are adaptive and functional or maladaptive and dysfunctional (see Box 12).

BOX 12 *Emotion’s Role in Development*

Question: Why is this information important?

Answer: To appreciate why Vulcans could never be smarter than humans.

In science fiction (i.e., *Star Trek*), Vulcans are a race of people who deny and reject their emotions. They constantly seek to overcome their emotions. Vulcans are also a very smart race, full of logic, intelligence, abstract thinking, and amazing cognitive development. Vulcans accomplish these lofty cognitive attainments, they believe, because they reject their emotions.

Rejecting emotions to enrich cognitive development is more fiction than science. The emotion system is critical to the development of the cognitive system (Baumeister, 2016). What if the Vulcan infant refused to smile or show spontaneous interest? The poor little guy’s quantity and quality of social interaction with caretakers would nose-dive. A steady stream of stimulation and challenge from others is necessary for optimal cognitive development, perspective taking, role playing, and rule internalization.

Interest is an emotion that arises from environmental novelty and complexity. Without interest, the Vulcan would lack an inner motivational resource to explore and learn from her physical surroundings—to pick things up, shake them, toss them, and conduct all sorts of little experiments on the world.

Anger during the “terrible twos” helps foster the preschool child’s sense of self-reliance (Dunn & Munn, 1987). Imagine the Vulcan child without the capacity for

anger when goals were obstructed. He or she would show little or no protest against restraints and discomforts. He or she would feel little motivation to engage in the thinking and problem-solving necessary for figuring out how to cope so to reverse and overcome obstacles.

Sadness, shame, guilt, sympathy, and empathy are emotional ingredients in the development of prosocial behavior. Without the information provided by these emotions, the Vulcan child would be slow to learn what would be wrong with taking a prized toy from another child. Empathy and sadness allow the child ways to understand the deleterious consequences to the other child (Davidson, Turiel, & Black, 1983). Shame and guilt make it painful to violate social rules and moral standards. Shame tells the self that one is acting in a way that is inadequate or unacceptable to others (Orth, Berking, & Burkhardt, 2006). Guilt motivates reparative behaviors that help maintain our relationships with others (Zeelenberg & Breugelmans, 2008).

Emotions facilitate and fuel cognitive development (Abe & Izard, 1999; Larson & Asmussen, 1991). One interesting analysis of this process appears in *The Diary of Anne Frank*. Her writings consistently showed that experiences of intense emotion were quickly followed by gains in higher levels of thinking (Haviland & Kramer, 1991). Emotional experiences (e.g., fear, anger, disgust, sadness) contribute motivationally to the adolescent’s active mental construction of the self-concept, the discovery of meaning, consideration of ideal and possible selves, and abstract thinking in general. In this way, emotions fuel cognitive development.

The reason that both sides of the “functional versus dysfunctional” question makes sense is because both are correct. Emotions exist as both a masterpiece of evolutionary design (as pointed out by emotion theorists) and an excess baggage in the age of reason (as pointed out by Stoics, Buddhists, and others).

Human emotion operates within a two-system design (Levenson, 1999). The biological core of the emotion system is one that humans share with other animals, and this is the part of the emotion system that evolved to solve fundamental life tasks. Because only a few life tasks are truly fundamental, the emotion system responds in a stereotypical way that recruits and orchestrates a limited set of responses. This way of responding can be characterized as “time-tested recipe” (to borrow an example from Levenson, 1999, and to capture the spirit of the content featured in Table 12.2). When situationally appropriate, these automated ways of responding to problems can be highly adaptive. But they can also be situationally inappropriate when activated under other circumstances. After all, attacking one’s opponents is not always the best way to handle a situation. For emotions to be adaptive across many different situations, they need to be regulated and controlled.

As Robert Levenson (1999) points out, in the modern world, tigers rarely jump out at us, people rarely steal our food, and wild beasts rarely threaten to kill our young. Today’s threats are on a smaller scale and therefore do not require the same sort of massive mobilization of our emotion systems. Becoming competent in regulating one’s emotions generally improves with experience, and it constitutes a lifelong undertaking (Carstensen, 1995; Gross, 2002). In the end, whether emotions serve us well depends on how able we are to self-regulate our emotion systems such that we experience regulation *of* emotion rather than regulation *by* emotion (Gross, 1999).

CAN WE CONTROL OUR EMOTIONS?

The tone of the chapter thus far has been that emotions are functional assets that generate automatic and effective coping responses that help us solve life’s fundamental problems. That is, emotions are fundamentally good. But those who study emotion regulation point out that emotions are not always helpful and can in fact sometimes hurt as well as help (Gross, 1998, 2008). Emotions hurt us when they are situationally inappropriate, when they come at the wrong time, or when they occur at the wrong level of intensity. It is at these times when we wish to intervene to take control to regulate or change our emotions. Emotions are often automatic reactions, but that does not mean that there are not numerous opportunities within the flow of an emotional episode to intervene to change the course it takes.

Emotion regulation refers to how we try to influence which emotions we have, when we have them, and how we experience and express the emotions we have (Gross, 2008). Emotion regulation also refers to what part of the emotion we try to gain control over—our feelings, our bodily response, our motivational urge, or our expressive display, and emotion regulation further involves efforts to change an emotion’s latency, magnitude, and duration (i.e., when it begins, what intensity level it reaches, and how long it lasts).

To illustrate how and when people attempt to intervene to regulate an emotion, James Gross breaks down the flow of an emotional episode, as depicted graphically in Figure 12.6. An emotion begins with a situation or what the chapter has referred to as a significant life event. So, the first opportunity to control an emotion is to intentionally select into which situation you put yourself. Once in an emotional situation, there is typically some degree of management or modification of that situation. The person also directs attention toward or away from the significant life event. Those situations that are attended to are appraised, interpreted, and reappraised. A coping response follows, and such action can change any part of the emotional episode.

As a brief illustration, your telephone may ring and your friend invites you to lunch. First, you decide to answer the phone or not, and second, you may (or may not) suggest an alternative

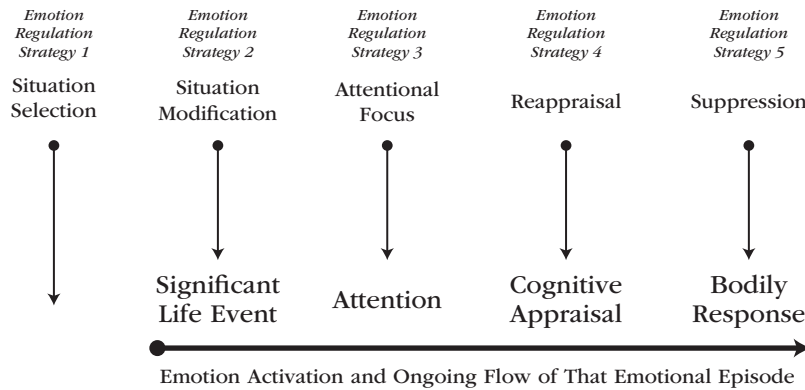


Figure 12.6 Flow of a Typical Emotion Episode and Five Opportunities to Regulate That Emotion

activity. During the conversation, you may attend fully to your friend and the plan for the afternoon, or you may just daydream or doodle on a piece of paper. During the conversation, you make a flurry of appraisals: “Is the invitation good or bad? Is the invitation familiar or unexpected? Is anything important at stake?” All these appraisals will be reassessed during the lunch. And, during the lunch, you will display many coping responses, such as expressing your thanks, offering self-disclosure, enlisting your friend’s support for something you are trying to do, or other responses. The point is that you will have many opportunities for emotion regulation during almost every emotional episode, and these opportunities for emotion regulation are depicted by the downward vertical lines at the top of Figure 12.6.

Emotion Regulation Strategies

Five opportunities to intervene to regulate an emotional episode are possible and are identified in the upper half of Figure 12.6: situation selection, situation modification, attentional focus, reappraisal, and suppression. The first four emotion regulation strategies are proactive, while the last strategy is reactive (Gross, 2002; Gross & Thompson, 2007). There are probably a hundred different emotion regulation strategies, so the five strategies featured in Figure 12.6 represent categories of strategies.

Situation Selection

The earliest opportunity to intervention to influence the trajectory of an emotional experience is situation selection. Situation selection is taking action to make one emotional experience more or less likely. Sometimes, situation selection is a strategic effort to prevent an emotion from launching (e.g., “If I go there, I’ll feel sad. So, I just won’t go.”). More generally, however, situation selection involves deciding what to do, where to go, who to spend time with, which activities to engage in, which appointments to keep, what to do after work, and how to schedule a Saturday afternoon. By selecting one situation rather than another, we tip the odds significantly whether we will encounter this or that significant life event. By selecting which life events to expose ourselves to, we significantly bias which emotions we will and will not experience. If we visit a friend, we will likely feel joy; if we clean the bathroom, we will likely feel disgust; and if we drive the car through the morning traffic instead of take the subway, we put ourselves into a situation to experience stress.

Situation Modification

Life's significant events unfold over time. The confrontation with a bully starts with fear, but the situation can take several twists and turns as each actor works to modify the situation. Upon seeing the bully's angry face and posture, we can modify that situation by expressing challenge or appeasement, by telling a joke or hurling an insult, by bringing along a big friend or coming alone, or other strategies. In the same way, conversations that begin as heated arguments do not have to be a breeding ground for anger, resentment, and contempt, if one or both partners will intervene to modify the flow of the argument by apologizing, showing concern, taking the other's perspective, offering support, soliciting advice, or behaving in a prosocial rather than in an antisocial way. Situation modification essentially involves problem-focused coping (Lazarus & Folkman, 1984), efforts to establish primary control over a situation (Rothbaum, Weisz, & Snyder, 1982), and the search for social support (Mikulincer, Shaver, & Pereg, 2003).

Attentional Focus

Situation selection and situation modification are rather active emotion regulation strategies. Changing one's attentional focus simply redirects one's attention within that situation. Within any emotional experience, there are always multiple aspects of that experience that we might potentially attend to. Sitting in class, you might attend to the content of the lesson, to the person sitting next to you, to the scene happening outside the window, or you can distract yourself by drawing or checking e-mails on your smartphone. If you are stuck in a long line, you might attend to the frustratingly long line or to the interesting conversation your friend can provide. When a child faces a threatening situation such as the dentist's office, the child can think of something else, such as the promise of an ice cream cone afterward or the cartoon playing on the television set. Many attentional focus strategies are possible, but distraction seems to be people's favorite. Drawing, for instance, seems to be an effective attentional regulating strategy to lessen negative emotionality (Dalebroux, Goldstein, & Winner, 2008; Drake & Winner, 2013). The opposite of distraction would be rumination. Rumination (i.e., persistent focus) over positive events is referred to as "savoring," and it can produce positive benefits (Bryant, 1989), but rumination over negative events is usually a poor emotion regulation strategy that simply increases the duration and intensity of a negative emotion such as distress or fear or anger (Bushman, 2002; Spasojevic & Alloy, 2001).

Reappraisal

Reappraisal is defined as "changing the way an individual thinks about a potentially emotion-eliciting situation in order to modify its emotional impact" (John & Gross, 2004, p. 1302). Reappraisal involves changing a situation's meaning. If someone bumps you in the hallway, you may feel angry, unless you take the time to think about why the event occurred. If the bump is reappraised as an accident, your anger may dissipate. If the bump is reappraised as empathy—because the person is so overworked and has to rush to keep the boss from yelling at her, your anger may turn to sympathy, pity, and even to prosocial behavior such as helping the other (Gross & John, 2003). In other situations, we may take a tragic turn of events (e.g., a cancer diagnosis) and, after some reflection and reappraisal, see the once-distressing event as a blessing in disguise that can be a springboard to bring us closer to a loved one or to the true meaning in our life. One effective reappraisal strategy is the "negative functional reappraisal" in which the person recognizes that the event is bad, but not tragic, as in "It is frustrating to be hassled but I can stand the frustration" (Crista, Tatar, Nagy, & David, 2012). Reappraisal can be used to either down regulate or outright change a negative emotion, or it can be used to up regulate a positive emotion. In general, reappraisal is a highly effective emotion regulation strategy, because people who tend to use reappraisal also tend toward better psychological, social, and physical well-being (Gross & John, 2003; Karademas, Tsalikou, & Tellarou, 2010).

Suppression

Suppression is unlike the previous four emotion regulation strategies in that it is used to modify an already occurring emotional experience, including any or all of its components of feeling, bodily activation, sense of purpose, or expression. Suppression is a strategy to down regulate one or more of these four aspects of emotion, such as to lessen a feeling or a bodily activation, as by taking a deep breath or trying to inhibit a facial expression. Suppression mostly involves “do nots,” as in do not laugh at the politically incorrect joke, do not show anger toward the boss, and do not cry during the sad movie. Unlike the previous emotion regulation strategies, suppression is generally a poor strategy, because it often backfires and also produces troubling side effects. Suppression backfires when we try to suppress an emotion or a component of emotion, because it usually produces more, not less, of that emotion or emotion component (e.g., it increases, rather than decreases, heart rate; Gross & Levenson, 1993). Suppression also tends to lead to social costs, because we typically feel more uncomfortable with interaction partners who try to suppress their emotions, rather than express them naturally (Butler et al., 2003). Generally, suppression is a rather blunt strategy, and what works best in emotion regulation is a flexible, situation-specific, and situationally sensitive intervention effort.

Overall, emotion regulation is a skill, as some strategies are more effective than are others. For instance, reappraisal and attentional focus regulate negative emotion rather effectively while suppression generally does not (Augustine & Hemenover, 2009). Further, the quality of people’s emotion regulation skill predicts the quality of their functioning in various domains, such as having high-quality peer relationships (Lopes, Salovey, Cote, & Beers, 2005), high-quality relationships with teachers (Grazziano, Reavis, Keane & Calkins, 2007), and strong academic achievement (Gumora & Arsenio, 2002).

WHAT IS THE DIFFERENCE BETWEEN EMOTION AND MOOD?

A sixth fundamental question on the nature of emotion asks, “What is the difference between emotion and mood?” (Ekman & Davidson, 1994; Russell & Barrett, 1999). Several distinguishing criteria can be listed (Goldsmith, 1994), but three seem especially telling: different antecedents, different action-specificity, and different time course.

First, emotions and moods arise from different antecedent causes. Emotions emerge from significant life situations and from appraisals of their significance to our well-being. Moods, on the other hand, emerge from processes that are ill-defined and are oftentimes unknown (Goldsmith, 1994). Moods occupy the background of consciousness, whereas emotions are clearly in its foreground (Rosenberg, 1998). Second, as to different action-specificity, emotions mostly influence behavior and direct specific courses of action. Moods, however, mostly influence cognition and direct what the person thinks about (Davidson, 1994). Third, as to different time course, emotions emanate from short-lived events that last for seconds or perhaps minutes, whereas moods last for hours or perhaps days. Hence, moods are more enduring than are emotions (Ekman, 1994a).

Everyday Mood

Most people have about 1,000 waking minutes in their day, but only a few of these actually include a prototypical emotion such as anger, fear, or joy (Clark, Watson, & Leeka, 1989; Watson & Clark, 1994). In contrast, the average person generally experiences an ever-present stream of moods or “affect.” People are always feeling something. What they typically feel is a mood, a way of feeling that often exists as an aftereffect of a previously experienced emotional episode (Davidson, 1994).

Mood—or affect—is a simple, nonreflective feeling state. It is a mental state, but it is not a cognitive state, because there is no specific object that is focused on or interpreted. Instead, mood

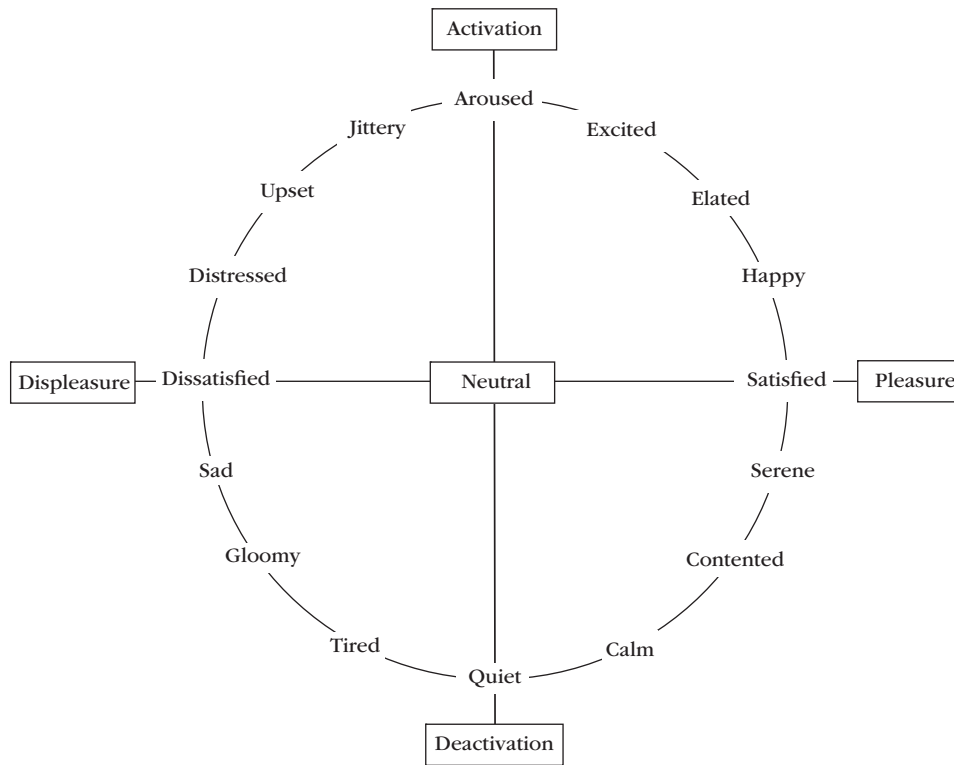


Figure 12.7 Circumplex Model of Affect

acts as a barometer of our underlying psychological and physiological functioning (Thayer, 1996). It is also ever-present in the background of consciousness.

Mood exists as a blend of two dimensions: valence and arousal (Russell, 2003; Yik, Russell, & Steiger, 2011). Valence refers to a dimension of pleasure versus displeasure; arousal refers to a dimension of activation versus deactivation. Together, mood is simply feeling good or bad, drowsy, or energized. A depiction of James Russell's circumplex of affect appears in Figure 12.7.

On the *x*-axis is valence, or displeasure-to-pleasure; on the *y*-axis is arousal, or deactivation-to-activation, and in the middle of the circumplex is a neutral affective state that is neither displeasurable nor pleasurable, deactivated nor activated. As one moves away from the center point out to the edge of the circumplex, mood takes on a sense of valence and arousal, as one can feel both positive and activated (elated), both positive and deactivated (contented), both negative and activated (upset), or both negative and deactivated (gloomy). Some mood researchers prefer to rotate the circumplex 45 degrees counter clockwise so that “energetic arousal” (elation) is at the top of the circumplex, accompanied by “tense tiredness” on the left, “calm tiredness” on the bottom, and “calm energy” on the right (Thayer, 1996, 2012). Other emotion researchers prefer to combine positive and activation into “positive affect” and negative and deactivation into “negative affect” (Watson & Tellegen, 1985).

The circumplex does a good job of describing the experience (the phenomenology) of affect, because one need to only know two variables to determine a person's mood—how positive do you feel? How aroused (activated) do you feel? From the answers to these two questions, the person's specific mood state can be identified, using the circumplex model in Figure 12.7. Where mood gets complicated is in the finding that positive and negative moods are independent—not opposite—ways of feeling (Diener & Emmons, 1984; Diener & Iran-Nejad, 1986). For example,

during a job interview, people often report feeling both positive and negative affects simultaneously. The job interviewee typically feels both happy and distressed, excited and tense, at the same time. Positive affect also varies systematically in accordance with the sleep–wake cycle, while negative affect does not (Watson, Wiese, Vaidya, & Tellegen, 1999). Level of positive affect is quite low upon waking. It increases rapidly throughout the morning, and it continues to rise gradually throughout the afternoon until it hits its peak from 6:00 p.m. to 9:00 p.m. Positive affect then declines rapidly throughout the late evening as it returns to its early-morning low level (Clark Watson, & Leeka, 1989). Negative affect, on the other hand, is fairly low and stable throughout the day (though the highest is from 3:00 a.m. to 6:00 a.m.).

Positive affect reflects pleasurable engagement. It is a “go” system (Thayer, 2012). It exists as a person’s current level of pleasure, enthusiasm, and progress toward goals. People who feel high positive affect typically feel enthusiastic and experience energy, alertness, and optimism, whereas those who feel low positive affect typically feel lethargic, apathetic, and bored.

Negative affect reflects unpleasant engagement. It is a “stop” system (Thayer, 2012). People who feel high negative affect typically experience dissatisfaction, nervousness, and irritability, whereas those who feel low negative affect are calm and relaxed. These feelings of alertness versus boredom (positive affect) and irritability versus relaxation (negative affect), rather than prototypical emotional states such as joy and fear, constitute the essential nature of everyday, ongoing affective experience—our everyday mood.

Positive and negative affect pertain not only to moods but also to broad cognitive, motivational, biological, and behavioral systems (Clark, Watson, & Mineka, 1994). Positive affect reflects a reward-driven, appetitive motivational system (Fowles, 1988), whereas negative affect reflects a punishment-driven, aversive motivational system (Gray, 1987a, b). Basically, positive affect and a good mood support approach behavior, while negative affect and a bad mood support stopping and withdrawal (Thayer, 2012; Watson, Wiese, Vaidya, & Tellegen, 1999). The positive affect system has its own neural substrate—dopaminergic pathways. These pathways are activated by the expectancy of desirable events (Ashby, Isen, & Turken, 1999; Wise, 1996) and generate positive affect and approach behavior (without impacting negative feelings). The negative affect system has its own neural substrate—serotonergic and noradrenergic pathways. These pathways are activated by the expectancy of negative outcomes (MacLeod, Byrne, & Valentine, 1996) and generate negative affect and withdrawal behavior (without impacting positive feelings).

Positive Affect

Positive affect refers to the everyday, low-level, general state of feeling good (Isen, 1987). It is the warm glow that so often accompanies everyday pleasant experiences such as walking in the park on a sunny day, receiving an unexpected gift or good news, listening to music, or making progress on a task. Although we focus on the park scenery, good news, pleasant music, or positive feedback, the mild good feeling arises subconsciously. We may smile more, whistle while we walk, daydream about happy memories, or talk more excitedly, but the positive feelings typically remain outside our conscious attention. In fact, if someone brings the pleasant mood to our attention (“My, aren’t we in a good mood today!”), such attention paradoxically is the beginning of the end of the positive affect.

This lack of awareness of the positive affect stands in contrast to the more intense, attention-grabbing positive emotions, such as joy. The purpose of an emotion is to capture attention and direct coping behavior (so the person can adapt to situational demands effectively). Positive affect is more subtle. It affects neither attention nor behavior. Instead, positive affect subtly influences the information-processing flow—what we think about, the decisions we make, creativity, judgments, risk-taking, and so on (Isen, 1987, 2002).

Conditions that Make Us Feel Good

People have difficult times explaining why they feel good. If pressed, they typically say that life is generally going well. Mood researchers, on the other hand, have learned which conditions lead people to feel good, and most of these conditions create positive affect in ways that leave people unaware of the causal source of their good moods (Isen, 1987). Consider these positive-affect-inducing experimental manipulations of a small gain, amusement, or pleasure: find money (Isen & Levin, 1972), a gift (a cookie or candies; Isen & Geva, 1987; Isen, Niedenthal, & Cantor, 1992), a free product sample (Isen, Clark, & Schwartz, 1976), receive a candy bar (Isen, Daubman, & Nowicki, 1987; Isen, Johnson, Mertz, & Robinson, 1985), learn that a performance was successful (Isen, 1970), receive refreshments such as orange juice (Isen Johnson, Mertz, & Robinson, 1985), a random act of kindness (Wilson, Centerbar, Kermer, & Gilbert, 2005), positive feedback (Isen, Rosenzweig, & Young, 1991), think about positive events (Isen Johnson, Mertz, & Robinson, 1985), sunny weather (Kraut & Johnston, 1979), an amusing film (Isen & Nowicki, 1981), or funny cartoons (Carnevale & Isen, 1986).

Once instigated by an eliciting event (e.g., receiving a small gift), the warm glow of a positive mood continues for up to 20 minutes (Isen Clark, & Schwartz, 1976). Because we enjoy feeling good, happy people make decisions and act in ways that maintain their good moods for longer than 20 minutes (Forest, Clark, Mills, & Isen, 1979; Isen, Shalke, Clark, & Karp, 1978). More often than not, however, some rival event or interrupting task distracts our attention away from the positive-affect-inducing event. That is, we lose our positive mood by engaging in neutral and aversive events (e.g., boring work, congested traffic, bad news, a risk turned sour).

Benefits of Feeling Good

Compared to people in a neutral mood, people exposed to conditions that allow them to feel good are more likely to help others (Isen & Levin, 1972), act sociably (i.e., initiate conversations; Batson et al., 1979), express greater liking for others (Veitch & Griffitt, 1976), be more generous to others (Isen, 1970) and to themselves (Mischel, Coates, & Raskoff, 1968), take risks (Isen & Patrick, 1983), act more cooperatively and less aggressively (Carnevale & Isen, 1986), solve problems in creative ways (Isen et al., 1987), persist in the face of failure feedback (Chen & Isen, 1992), make decisions more efficiently (Isen & Means, 1983), and show greater intrinsic motivation on interesting activities (Isen & Reeve, 2005). Consider two illustrations of the benefits of feeling good.

Positive affect facilitates our willingness to help others (Isen & Levin, 1972). In one illustrative field study, experimenters induce mild positive affect in people who were going about their normal day at the local mall. The researchers then arranged to have a young woman walk by and “accidentally” drop an armful of books. If positive affect facilitates helping others, then the participants in the good mood should be significantly more likely to help the woman than would the participants who were in their everyday neutral mood. Results appear in Table 12.3. People in their normal and regular daily mood (did not receive the positive affect induction) almost never helped (only 1 out of 25 helped). People in a good mood, however, almost always helped (fully 14 out of 16 helped). These results show that a very mild, pleasant feeling dramatically increased people’s willingness to help a stranger in need.

Table 12.3 Effect of Positive Affect on Helping Others

| Experimental Condition | Number of People Who Did Not Help | Number of People Who Did Help |
|---|--------------------------------------|----------------------------------|
| People Induced into a Positive Mood | 2 | 14 |
| People Not Induced into a Positive Mood | 24 | 1 |

Positive affect also facilitates cognitive flexibility (Isen Niedenthal, & Cantor, 1992) and creative problem-solving (Estrada, Isen, & Young, 1994, 1997; Isen Daubman, & Nowicki, 1987). Alice M. Isen and her colleagues (1987) induced positive or neutral affect in groups of college students and then asked them to solve one of two problem-solving tasks requiring creativity—the candle task (Dunker, 1945) or the Remote Associates Test (RAT; Mednick, Mednick, & Mednick, 1964). In the candle task, the participant receives a pile of tacks, a candle, and a box of matches and the instructions to attach the candle to the wall (a cork board) so that the candle can burn without dripping wax on the floor. In the RAT, the participant sees three words (*soul*, *busy*, *guard*) and is asked to generate a fourth word that relates to the other three (in this case, *body*). Positive affect participants solved the creativity-demanding candle task and gave creative (unusual or “remote”) associates to the RAT (Isen Daubman, & Nowicki, 1987). In contrast, the candle task stumped the neutral affect participants, and they gave routine, stereotypical responses to the RAT. Thus, there are inherent information-processing advantages conferred by feeling good (Aspinwall, 1998).

The explanation as to how and why positive affect facilitates creativity, decision-making efficiency, sociability, prosocial behavior, persistence, and so on is not as straightforward as it might first appear to be. Being a mood rather than an emotion, positive affect influences cognitive processes, such as memories, judgments, and problem-solving strategies, rather than directly causing a change in behavior. It therefore influences the contents of working (short-term) memory by biasing what the individual thinks about and what memories and expectations come to mind (Isen, 2008; Yang, Yang, & Isen, 2013). When feeling good, positive affect essentially serves as a retrieval cue to put the spotlight on positive material stored in memory (Isen Shalker, Clark, & Karp, 1978; Laird, Wagener, Halal, & Szegda, 1982; Nasby & Yando, 1982; Teasdale & Fogarty, 1979). As a result, people who feel good have ready access to happy thoughts and positive memories (compared to people who feel neutral). With happy thoughts and pleasant memories salient in one’s mind, people show increased creativity, help others more, show persistence in the face of failure, make decisions efficiently, show high intrinsic motivation, and so on. This helps explain why short-term positive affect helps people be successful in a wide range of areas in their lives, including marriage, friendship, income, work, and health (Lyubomirsky, King, & Diener, 2005).

SUMMARY

This chapter addresses six questions central to understanding the nature of emotion. The first question asks, “What is an emotion?” Emotions have a four-part character in that they feature dimensions of feeling, bodily preparation for action, motivational purpose, and expressive behavior. Feelings give emotions a subjective, phenomenological component. Bodily preparation includes biological activity that prepares the body for adaptive coping behavior. The purposive component generates an impulse to action that gives emotion a goal-directed sense of motivation to take a specific course of action. Expressive behavior is emotion’s communicative aspect, as through a facial expression. Emotion is the psychological construct that coordinates and unifies these four aspects of experience into a synchronized, adaptive pattern.

The second question asks, “What causes an emotion?” This question asks what activates an emotion and, hence, it investigates whether emotion is primarily a biological or a cognitive phenomenon. According to the biological perspective, emotions arise from the activation of neural circuits in the subcortical brain. According to the cognitive perspective, emotions arise from appraisals and interpretations of the personal meaning of the emotion-causing event. Both biology and cognition play a pivotal role in the activation and regulation of emotion, and researchers specify two ways that this is so: two parallel emotion systems and a dynamic, dialectical process.

The third question asks, “How many emotions are there?” The answer depends on one’s perspective. According to the biological perspective, human beings possess somewhere between two and eight basic emotions (e.g., fear, anger, sadness, disgust, joy). These researchers illustrate how basic

emotions emerge from subcortical neural circuits, essential life pursuits, and hardwired functions to solve survival-relevant challenges. According to the cognitive perspective, human beings possess a richer, more personalized, and more diverse emotional repertoire. These researchers illustrate how an almost limitless number of complex emotions are acquired through personal experience, and they can explain complex emotions such as gratitude, hope, and resentment. One strategy to reconcile the numbers issue is to think of basic emotions as families of emotion that contain one core basic emotion and its many derivative complex emotions. A second strategy is to differentiate first-order biologically basic emotions from second-order cognitively enriched emotion schemas.

The fourth question asks, “What good are the emotions?” It highlights that emotions serve a purpose. From a functional point of view, emotions evolved as biological reactions that helped us adapt successfully to fundamental life tasks, such as facing a threat. Coping functions include the motivational tendencies that stem from each emotion, such that interest motivates exploring, anger motivates fighting, and so forth. Social functions include communicating our feelings to others, influencing how others interact with us, inviting and smoothing social interaction, and creating and dissolving interpersonal relationships.

The fifth question asks, “Can we control our emotions?” Emotions are often automatic reactions, but there are nevertheless numerous opportunities within the flow of an emotional episode to intervene to change the course it takes. Emotion regulation refers to how we try to influence which emotions we have, when we have them, and how we experience and express the emotions we have. Five emotion regulation strategies are common. Situation selection is taking action to approach or avoid a known emotion-eliciting situation. Situation modification is altering the emotion-eliciting situation so that it becomes more likely to produce positive emotions and less likely to produce negative emotions. Attentional focus includes effective strategies such as distraction, drawing, and savoring, but also ineffective ones such as rumination. Reappraisal refers to changing how one appraises the meaning emotion-eliciting event, as a threatening job interview can be reinterpreted as a beneficial opportunity. Suppression is a strategy to down regulate a negative emotion or one of its components. Overall, emotion regulation is a skill that predicts people’s functioning in terms of interpersonal relationships and personal productivity.

The sixth and final question asks, “What is the difference between emotion and mood?” Emotions arise in response to a specific event, motivate specific adaptive behaviors, and are short-lived. Moods arise from ill-defined sources, affect cognitive processes, and are long-lived. Mood exists as a blend of the two dimensions of valence (pleasure vs. displeasure) and arousal (activation vs. deactivation). Together, mood is simply feeling good or bad, drowsy, or energized. The benefits of a positive affect state are many and include being more sociable, cooperative, creative, persistent during failure, efficient in decision making, and intrinsically motivated during interesting tasks. Positive affect exerts these beneficial effects by affecting cognitive processes such as memories and judgments—that is, what comes to mind. As a result, people who feel good have greater access to happy thoughts and positive memories and therefore behave in ways that reflect easy access to happy thoughts (e.g., more creative, more helpful).

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Aspects of Emotion

BIOLOGICAL ASPECTS OF EMOTION

- James–Lange Theory
- Contemporary Perspective
- Brain Activity Activates Individual Emotions
- Facial Feedback Hypothesis
 - Facial Musculature
 - Test of the Facial Feedback Hypothesis
 - Are Facial Expressions of Emotion Universal across Cultures?
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- Appraisal
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 - Motivation
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SOCIAL ASPECTS OF EMOTION

- Social Interaction
- Social Sharing of Emotion

SUMMARY

READINGS FOR FURTHER STUDY

Try to look sad—try to produce a sad facial expression. As you try this, attend to the changing sensations you feel from the movements of your facial musculature. If you just pouted out the lower lip and pulled down the corners of your mouth, then you probably did not feel too sad. So, try this again.

Produce a second sad facial expression. But this time move not only your lower lip and corners of your mouth but also move your eyebrows inward and upward at the same time. Moving your eyebrows inward and upward will take some skill, so pretend that you have a couple of golf tees attached to the inner corners of the eyebrows. Pretend these golf tees are about two inches apart and pointing out from your face in a parallel way (imagine that the base of each tee rests on the inner eyebrow with its tip extending outward). Now move your eyebrows inward and upward until the tips of the golf tees touch. Now try to move all three of these muscles together—touch the golf tees together, pout your lower lip, and turn the corners of your mouth down (Larsen, Kasimatis, & Frey, 1992).

Did you feel anything change? Did you sense a hint of a sad feeling coming on? Did your heart rate accelerate a little? Any vague urge to cry? If so, the feeling will be mild because a posed facial expression is not as authentic and emotion-producing as is a spontaneous facial expression.

As important life events come our way, these events activate biological and cognitive reactions in us. The resulting biological and cognitive processes generate emotion. An outline of the most important biological and cognitive processes involved in emotion appears in Table 13.1. The first half of this chapter overviews these biological processes (left-hand side), while the second half of the chapter overviews these cognitive processes (right-hand side).

BIOLOGICAL ASPECTS OF EMOTION

Emotions are, in part, biological reactions to important life events. The list of biological events in Table 13.1 is important because these entries identify what the body is doing to react to and to prepare for emotion-eliciting events. Facing a situation of personal significance (e.g., a threat), the body prepares itself to cope effectively (e.g., gets ready to run and defend itself) by (1) activating the heart, lungs, and muscles (autonomic nervous system (ANS)) and releasing hormones into the bloodstream (endocrine system); (2) stimulating subcortical brain structures such as the amygdala; and (3) expressing a unique pattern of the facial musculature (facial feedback). With these biological systems engaged, the person experiences emotion and is ready to cope with the impending threat. Table 13.1 also identifies the central cognitive aspects of emotion—appraisal, knowledge, and attribution, and these will be detailed and discussed in the second half of the chapter.

Emotion study began about 100 years ago by asking what role the ANS played in the subjective experience of emotion. The first theory of emotion, the James–Lange theory, asked whether the different emotions each had unique bodily reactions associated with them. We all know that fear and joy feel different, but do fear and joy also have their own unique bodily reactions? Do our heart, lungs, and hormones behave one way when we are afraid yet another way when we experience joy? And if so, do these biological differences explain why the emotions we experience are different? Does the pattern of activity in our heart, lungs, and hormones cause the felt fear and felt joy?

Table 13.1 Biological and Cognitive Aspects of Emotion

| Biological Aspects | Cognitive Aspects |
|-------------------------------|-------------------|
| 1. Autonomic nervous system | 1. Appraisals |
| 2. Subcortical brain circuits | 2. Knowledge |
| 3. Facial feedback | 3. Attributions |

James–Lange Theory

Personal experience suggests that we experience an emotion and that the felt emotion is quickly followed by bodily changes. As soon as we see the flashing red lights and hear the siren of a police car, fear arises and the feeling of fear subsequently makes our heart race and our palms sweat. The sequence of events seems to be stimulus → emotion → bodily reaction. William James (1884, 1890, 1894) argued against this common view. He suggested that our bodily changes do not follow the emotional experience; rather, emotional experience follows from and depends on our bodily responses to the flashing lights and siren sounds. Hence, bodily changes cause emotional experience: stimulus → bodily reaction → emotion.

James's theory rested on two assumptions: (1) The body reacts uniquely (discriminatorily) to different emotion-eliciting events, and (2) the body does not react to nonemotion-eliciting events. To appreciate James's hypotheses, think of your body's physiological responses to a shower that suddenly and unexpectedly turns cold. The physiological reaction—the increased heart rate, quickened breath, and widened eyes—begins before you have time to think about why your heart is racing and why your eyes are widening. The body reacts and the ensuing emotional reactions are on us before we are aware of what is happening. James argued that such instantaneous bodily reactions occur in patterns. Each different pattern caused a different emotion. Further, if the bodily changes did not occur, then the ensuing emotion would not occur.

The James–Lange theory of emotions quickly became popular, but it also met with criticism (Cannon, 1927).¹ Critics argued that the sort of bodily reactions James referred to were actually part of the body's general mobilizing fight-or-flight response that did not vary from one emotion to the next (Cannon, 1929; Mandler, 1975; Schachter, 1964).² These critics also argued that emotional experience was quicker than physiological reactions. That is, while a person feels anger in a tenth of a second, it takes this person's nervous system a full second or so to activate important glands and send excitatory hormones through the bloodstream. These critics contended that the role of physiological arousal was to augment, rather than to cause, emotion (Newman, Perkins, & Wheeler, 1930). Critics concluded that the contribution of physiological changes to emotional experience was small, supplemental, and relatively unimportant.

Contemporary Perspective

In the face of criticism, James's ideas faded out of favor, and rival theories of emotion emerged and became popular (see Schachter & Singer, 1962). Nonetheless, James's insights continue to guide contemporary study (Ellsworth, 1994; Lang, 1994), and contemporary research now supports the physiological specificity of a few (but certainly not all) emotions (Buck, 1986; Levenson, 1992; Schwartz, 1986). Paul Ekman, Robert Levenson, and Wallace Friesen (1983), for example, studied whether each of several emotions does or does not have a unique pattern of bodily changes. These researchers recruited people who could experience emotions on command (professional actors) and asked each to relive five different emotions—anger, fear, sadness, joy, and disgust—while the researchers measured for emotion-specific patterns of physiological activity. Distinct differences in heart rate (HR), skin temperature (ST), and skin conductance (SC) emerged. With anger, HR and ST both increased. With fear, HR increased while ST decreased. With sadness, HR increased while

¹At the same time James presented his ideas, a Danish psychologist, Carl Lange (1885), proposed essentially the same (but more limited) theory. For this reason, the idea that emotions emanate from our interpretation of patterns of physiological arousal is traditionally called the James–Lange theory (Lange & James, 1922).

²For instance, does a person experience specific emotions after taking a stimulant drug known to induce bodily changes—increase heart rate, minimize gastrointestinal activity, and dilate the bronchioles? Drug-induced visceral stimulation leads people to feel “as if afraid” or “as if going to weep without knowing why” rather than afraid or sad *per se* (i.e., people feel generally aroused but not specifically afraid).

SC decreased. With joy, HR, ST, and SC were all low and stable. And with disgust, both HR and ST decreased. Just as James suspected, different emotions did indeed produce distinguishable patterns of bodily activity.

Persuasive evidence exists for distinctive ANS activity associated with anger, fear, sadness, and disgust (Ekman & Davidson, 1993; Ekman et al., 1983; Levenson, 1992; Levenson, Carstensen, Friesen, & Ekman, 1991; Levenson, Ekman, & Friesen, 1990; Sinha & Parsons, 1996; Stemmler, 1989). Of course, ANS activity extends beyond just HR, ST, and SC. Autonomic nervous system activity also involves vasodilation (blushing), stimulation of the lacrimal glands (crying), pupil dilation and constriction, stimulation of the salivary glands, stimulation of hair follicles, and so on. When these aspects of ANS activation are included, ANS activity can distinguish between at least six emotions—namely, anger, fear, sadness, disgust, happiness, and embarrassment (Matsumoto et al., 2008). These patterns of ANS activity supposedly emerged because they were able to recruit ways of behaving that proved to be adaptive. For instance, blushing facilitated embarrassment-motivated appeasement behaviors to help maintain a positive self-image in the eyes of others, despite the social blunder that caused the embarrassment in the first place. In the same way, in a fight that arouses anger, increased heart rate and skin temperature facilitate strong, assertive behavior. Some implications of emotion-distinctive ANS activity are discussed in Box 13.

BOX 13 *Affective Computing*

Question: Why is this information important?

Answer: To prepare yourself for the coming technology that will read your emotions.

The finding that some emotions show ANS specificity has intriguing implications for coming technology. If changes in blood pressure and skin temperature can reliably distinguish between the emotions of anger, fear, sadness, joy, and disgust, then machines rich in artificial intelligence that read our emotions are not far away.

Imagine electronic sensors built into steering wheels, smartphones, tablets, wristwatches, the handles of bicycles, pilot simulators, computer joysticks, and golf clubs that constantly monitor the user's ANS activity while driving, talking, and so on. Imagine too electronic sensors in a device held by audience members during plays, lectures, musical performances, and political debates.

Soon, you will not need to imagine such technology, because scientists in the new field of "affective computing" are hard at work building such devices. One particularly interesting invention is the "emotion mouse" (Azar, 2000). It functions like an ordinary computer mouse, except it has special sensors for monitoring heart rate, skin temperature, hand movements, and skin conductance. The computer monitors the data collected by the emotion mouse and analyzes these data as a means to infer the user's emotional state. This information can be added to artificial intelligence to predict and to adapt to that emotional state.

If a computer can read a user's emotions, then it gains the capacity to adjust its programming to the user's emotionality. A computer game can be made more or less challenging. A tutorial can be adjusted to decrease fear, say by

representing familiar information rather than new information. An online counseling session can provide emotional feedback regarding the feelings of a client at different points in the conversation.

But even the best emotion mouse or gaming console will still be limited to monitoring only five or six emotions (i.e., only the emotions that show ANS specificity). To expand the computer's ability to monitor and analyze additional emotions, a digital camera or a camera built into a smartphone or tablet could monitor and analyze facial expressions. Such a camera could monitor movements of the user's face—the user's frontalis, corrugators, orbicularis oculi, zygomaticus, nasalis, depressors, orbicularis oris, and quadratus labii facial muscles (see Figure 13.2). With these facial movements, the computer gains the data necessary to infer both the presence and the intensity of anger, fear, distress, disgust, joy, interest, and contempt.

Researchers have already developed the software (Krumhuber et al., 2012) needed to analyze and interpret a user's facial muscles called "FACS" for facial action coding system (Ekman & Friesen, 1978). Computers using this software are about as accurate as (and much faster than) people who score the same facial movements (Cohn, Zlochower, Lien, & Kanade, 1999). The ability of computers to instantly recognize people's emotional expressions appears to be only a matter of time (Ekman & Friesen, 1975; Ekman & Rosenberg, 1997). It will not be long before your automobile, television set, or wristwatch will ask how it can help you, because it will know that you are significantly more distressed now than you were two minutes ago.

Only a few emotions have distinct ANS patterns, however. If no specific pattern of behavior has survival value for an emotion, there is little reason for the development of a specific pattern of ANS activity (Ekman, 1992, 1994a). For instance, what is the most adaptive behavioral pattern to jealousy? to hope? For these emotions, no single adaptive activity seems universally most appropriate because adaptive coping depends more on the specifics of the situation than on the emotion itself. That said, new research is beginning to show that positive emotions (e.g., enthusiasm, awe, love, amusement) also show qualitatively distinct ANS patterns of activity (Shiota et al., 2011).

Endocrine activity also plays a role in emotion (Panksepp, 1998). Opiates promote social bonding by producing a strong positive emotionality (love). Brain exogenous opiates (morphine) and brain endogenous opiates (endorphins) both alleviate sadness and separation distress. In addition, oxytocin and prolactin play a key role in alleviating sadness and separation distress, and they further contribute positively to joy, love, contentment, attraction, and social bonding (Marazziti, Dall'osso, & Baroni, 2006). The two hormones of adrenaline (epinephrine) and cortisol support the fight-or-flight stress reaction (Kemeny & Shestyuk, 2008). Just as emotion involves a good deal of ANS activity, it also involves a good deal of endocrine (hormonal) activity.

In discussing the James–Lange theory of emotion, the fundamental question is whether the physiological arousal causes, or just follows, emotion activation. This question is important because if arousal causes emotion, then the study of physiological arousal becomes the cornerstone for any understanding of emotion. But if arousal merely follows and augments emotion, physiological activity is therefore much less important—noteworthy, but not vital. Contemporary researchers generally agree that physiological arousal accompanies, regulates, and sets the stage for emotion, but it does not directly cause it. The modern perspective is that emotions recruit biological and physiological support to enable adaptive behaviors such as fighting, fleeing, and nurturing (Levenson, 1994b).

Brain Activity Activates Individual Emotions

Just as early researchers looked for emotion-specific patterns of physiological activity, contemporary researchers search for emotion-specific patterns in brain activity (Gray, 1994; LeDoux, 1996; Panksepp, 1998; Panksepp & Biven, 2011; Vytal & Hamann, 2010). For instance, Jeffrey Gray's (1994) neuroanatomical findings (with nonhuman mammals) document the existence of three distinct neural circuits in the brain, each of which regulates a distinctive pattern of emotional behavior: (1) a *behavioral approach system* that readies the animal to seek out and interact with attractive environmental opportunities, (2) a *fight-or-flight system* that readies the animal to flee from some aversive events but to defend aggressively against other events, and (3) a *behavioral inhibition system* that readies the animal to freeze in the face of aversive events. These three neural circuits underlie the four emotions of joy, fear, rage, and anxiety.

When emotion researchers use the methods of neuroscience to scan brain activity during emotional experience, they use various techniques to activate emotions and then scan the brain to monitor its reaction (PET and fMRI; recall Chapter 3). For instance, researchers ask participants to view an emotion-eliciting film, and they then observe closely what each participant's brain does to generate an emotional reaction (Vytal & Hamann, 2010). Their finding for six basic emotions can be summarized as follows (Lee & Reeve, 2017; Vytal & Hamann, 2010):

- | | |
|-------------|--|
| • Happiness | Superior temporal gyrus and rostral anterior cingulate cortex |
| • Sadness | Medial frontal gyrus and the caudate anterior cingulate cortex |
| • Anger | Inferior frontal gyrus and parahippocampal gyrus |
| • Fear | Amygdala and insula |
| • Disgust | Anterior insula and right inferior frontal gyrus |
| • Interest | Anterior insula |

The activation of any particular subcortical brain area is important because biologically minded emotion researchers assume that within each brain structure must be a certain set of specific instructions (metaphorically speaking) to guide the coordinated activity that is an emotional reaction (Ekman & Cordaro, 2011; Ohman & Mineka, 2001). The onset of the person's subjective feelings, motivational impulses, ANS activity, and expressive signals occurs so quickly, and in such a coherent and coordinated way that researchers confidently assume that stimulated brain areas must be implementing an emotion program that is specific to each individual basic emotion (Tooby & Cosmides, 1990). The assumption is that there are somewhere between three and eight brain areas with specific instructions to guide each family of emotions.

Such "instructions" embedded with a subcortical brain structure are not lengthy scripts but, rather, consist of something more like the following. The brain area features a very fast *pattern detector* that monitors what is happening in immediate time (e.g., seeing unexpected movement activates threat) and also a very fast output generator (e.g., accelerate heart rate, dilate the pupils; Levenson, 2011). Thus, what the amygdala brain structure does is detect any environmental pattern of threat (e.g., quick movement in one's direction), and it further quickly generates the bodily systems necessary to produce a freezing reaction. What detects the threat and what mobilizes the bodily reaction is the ancient and evolutionary-developed emotion program (set of instructions) stored in the amygdala (LeDoux, 1996, 2000).

A second, similar perspective on the nature of these subcortically stored emotion programs is that they are situation-detecting algorithms that lie dormant until activated by specific constellations of situational cues that were identified in one's ancestral past (Tooby & Cosmides, 2008). An analogy that speaks to the nature of these emotion programs is hunger. The hypothalamus has the capacity to detect low blood sugar and then generate output motivation to find and consume food. When a situation is detected by an emotion program that is consistent with cues related to a fundamental life task (e.g., a threat, a new area to explore), these anciently stored algorithms detect those signals to activate the corresponding basic emotion. Some of what is detected is rather straightforward (e.g., "snake detected!"), while some of what is detected is more complicated because it involves neural connections that add information from personal experience and learning.

Facial Feedback Hypothesis

According to the facial feedback hypothesis (FFH), the subjective aspect of emotion stems from feelings engendered by (1) movements of the facial musculature, (2) changes in facial temperature, and (3) changes in glandular activity in the facial skin. Therefore, emotions are "sets of muscle and glandular responses located in the face" (Tomkins, 1962). In other words, emotion is the awareness of proprioceptive feedback from facial behavior.

Upon being introduced to the FFH, the reader might be a bit skeptical—"C'mon, smiling makes you happy?" But consider the following sequence of events depicted in Figure 13.1 to understand how sensations from the face feedback to the cortical brain to produce subjective emotional experience (Izard, 1991). As shown in Figure 13.1, exposure to an external (loud noise) or internal (memory of being harmed) event increases the rate of neural firing quickly enough to activate a subcortical emotion program such as fear (1). The subcortical brain structure possesses an emotion-specific program anatomically located in the limbic system (2). When activated, these programs send impulses to the facial nerve to generate a specific facial expression (3). Within microseconds of the displayed fear facial expression (4), the brain interprets the proprioceptive stimulation (which muscles contracted, which muscles relaxed, changes in blood flow, changes in skin temperature, change in glandular secretions) and sends the facial information to the cortical brain via the trigeminal nerve (5). This particular pattern of facial feedback is cortically integrated—made sense of—as the subjective feeling of fear (6). Only then does the frontal lobe of the cortex become aware of the emotional state at

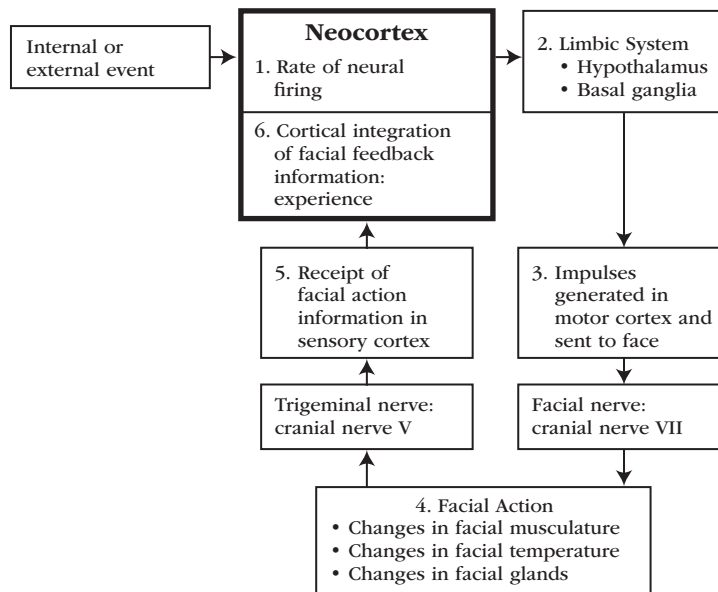


Figure 13.1 Sequence of the Emotion-Activating Events According to the Facial Feedback Hypothesis

a conscious level. Quickly thereafter, the whole body joins the facial feedback to become involved in amplifying and sustaining the activated fear experience.

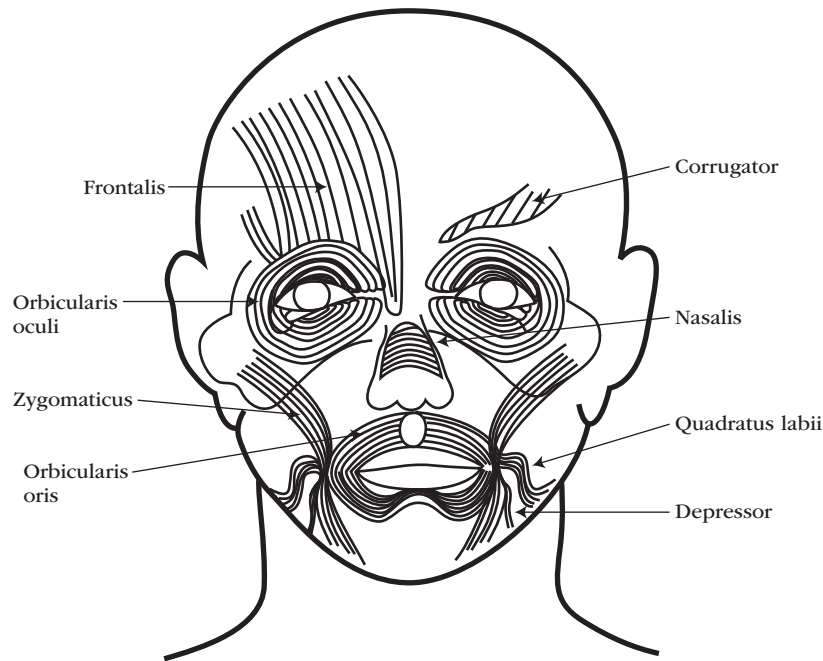
Facial feedback does one job: emotion activation (Izard, 1989, 1994). Once an emotion is activated, it is the emotion program, not the facial feedback, that recruits further cognitive and bodily participation to maintain the emotional experience past the first split-second of time. The person then becomes aware of and monitors not her facial feedback but her changes in heart rate, respiration, muscle tonus, posture, and so on.

Facial action also changes brain temperature, such that facial movements associated with negative emotion (sadness) constrict breathing, raise brain temperature, and produce negative feelings, whereas facial movements associated with positive emotion (happiness) enhance breathing, cool brain temperature, and produce positive feelings (McIntosh, Zajonc, Vig, & Emerick, 1997; Zajonc, Murphy, & Inglehart, 1989). To make sense of this, make a sad facial expression and see if the facial action around the nose does not constrict your air flow a bit. Also, make a joy facial expression and see if that facial action (e.g., raising the cheeks) does not encourage and open up nasal air flow. The changing brain temperatures do have (mild) emotional consequences.

Facial Musculature

There are 80 facial muscles, 36 of which are involved in facial expression. For purposes of exposition, however, the eight facial muscles shown in Figure 13.2 are sufficient for differentiating among the basic emotions (for more information, see Ekman & Friesen, 1975; Izard, 1971). The upper face (the eyes and forehead) has three major muscles: the frontalis (covers the forehead), corrugator (lies beneath each eyebrow), and orbicularis oculi (surrounds each eye). The middle face has two major muscles: the zygomaticus (extends from the corners of the mouth to the cheekbone) and the nasalis (wrinkles the nose). The lower face has three major muscles: the depressor (draws the corners of the mouth downward), the orbicularis oris (circular muscle surrounding the lips), and the quadratus labii (draws the corners of the mouth backward).

Patterns of facial behavior produce discrete emotional expressions. Anger, fear, disgust, distress, and joy, for instance, all have a recognizable facial expression. These facial expressions are described



| Facial Muscle | Anger | Fear | Disgust | Sadness | Joy |
|--------------------------|------------------------------|--|------------------|--|---|
| Frontalis (Forehead) | n/a | contracts, producing forehead wrinkles | n/a | n/a | n/a |
| Corrugator (Eyebrows) | draws eyebrows in and down | raises inner corners of eyebrows | n/a | raises and draws together inner corners of eyelids | n/a |
| Orbicularis Oculi (Eyes) | tenses lower eyelids upward | raises upper eyelids, tenses lower eyelids | n/a | raises upper inner corner of eyelids | relaxes, showing wrinkles below eyes |
| Nasalis (Nose) | n/a | n/a | wrinkles nose | n/a | n/a |
| Zygomaticus (Cheeks) | n/a | n/a | raises cheeks | n/a | pulls corners of lip back and up; raises cheeks, showing Crow's feet below eyes |
| Orbicularis Oris (Lips) | presses lips firmly together | n/a | raises upper lip | n/a | n/a |
| Quadratus Labii (Jaw) | n/a | pulls lips backward | n/a | n/a | n/a |
| Depressor (Mouth) | n/a | n/a | n/a | pull corners of lips down | n/a |

Figure 13.2 Eight Major Facial Muscles Involved in the Expression of Emotion

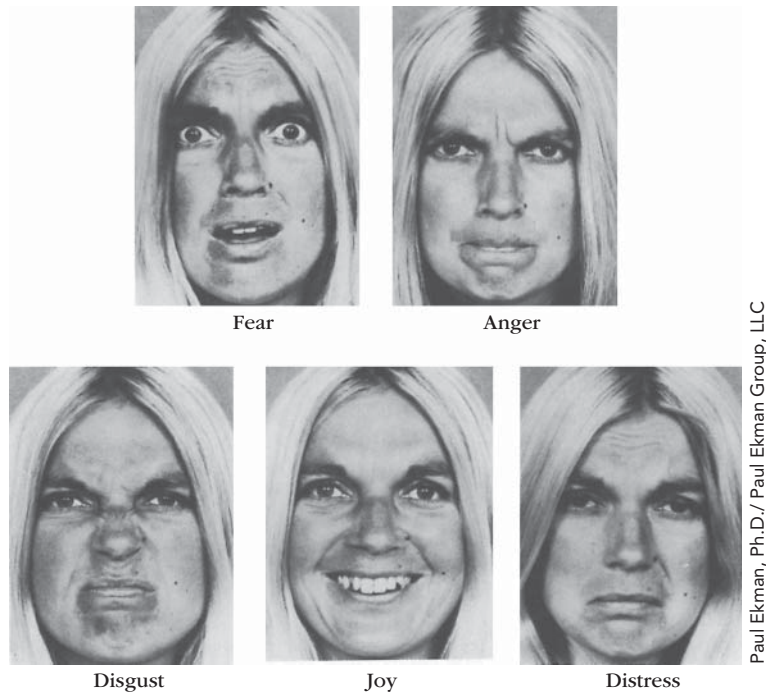


Figure 13.3 Facial Expressions for Five Emotions

muscle-by-muscle in words in Figure 13.2 and in pictures in Figure 13.3 (Ekman & Friesen, 1975). Two additional emotions are associated with a particular pattern of facial behavior: interest (Dukes, Clement, Audrin, & Mortillaro, 2017; Reeve, 1993) and contempt (Ekman & Friesen, 1986). The interest expression is illustrated in the faces of the gallery who are tracking the flight of the golf ball in Figure 13.4 (e.g., the man seventh from the left wearing a dark striped shirt). For interest, the orbicularis oculi open the eyelids and the orbicularis oris slightly parts the lips open. For contempt, the zygomaticus unilaterally raises the corner of one lip upward. In contempt, the person “snarls” upward one side of the upper lip (a la Elvis Presley). Pride too can be universally recognized, although pride expresses itself beyond the face (i.e., small smile, head tilted slightly back, expanded posture, arms lifted and extended high; Tracy & Robins, 2004, 2007).

Test of the Facial Feedback Hypothesis

Feedback from facial behavior, when transformed into conscious awareness, constitutes the experience of emotion (Laird, 1974; Tomkins, 1962, 1963). This is the FFH. Investigations to test the validity of the FFH have used two different methodologies, because there are two testable versions of the FFH—the strong version and the weak version (McIntosh, 1996; Rutledge & Hupka, 1985).

In its strong version, the FFH proposes that manipulating one’s facial musculature into a pattern that corresponds to an emotion display (see Figure 13.3) will activate that emotional experience. In other words, frowning the lips and raising the inner eyebrows inward and upward activates sadness (recall the example at the beginning of this chapter). In empirical tests, an experimenter instructs a participant to contract and relax specific muscles of the face and, with a particular facial expression displayed, complete a questionnaire to assess emotional experience. For example, in one study, participants were instructed to (1) “raise your brows and pull them together,” (2) “now raise your upper eyelids,” and (3) “now also stretch your lips horizontally, back toward your ears” (Ekman et al., 1983). So posed, the participants were asked about their emotional state (fear, in this case) on



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Figure 13.4 Some Facial Expressions of Interest

a questionnaire. Research has both supported (Laird, 1974, 1984; Larsen et al., 1992; Rutledge & Hupka, 1985; Strack, Martin, & Stepper, 1988) and refuted (McCaul, Holmes, & Solomon, 1982; Tourangeau & Ellsworth, 1979) the strong version of the FFH. One area of consensus is that a posed facial musculature does produce reliable changes in physiological reactions, such as changes in cardiovascular and respiratory rates (Ekman et al., 1983; Tourangeau & Ellsworth, 1979). It is still debated whether the posed facial musculature produces emotional experience, but most studies suggest that it does produce at least a small effect (Adelmann & Zajonc, 1989; Izard, 1990; Laird, 1984; Matsumoto, 1987; Rutledge & Hupka, 1985).

In its weaker (more conservative) version, the FFH proposes that facial feedback modifies the intensity of (rather than causes) the emotion. Thus, managing one's facial musculature into a particular emotional display will augment (exaggerate) but will not necessarily activate (cause) the emotional experience. In other words, if you intentionally smile when you are already joyful, then you will feel a more intense joy. In one experiment, participants either exaggerated or suppressed their spontaneous facial expressions while watching a video, which depicted either a pleasant, a neutral, or an unpleasant scenario (Zuckerman, Klorman, Larrance, & Spiegel, 1981). Exaggerating naturally occurring facial expressions did augment both emotional and physiological experience, just as suppressing naturally occurring facial expressions softened both emotional and physiological experience (Lanzetta, Cartwright-Smith, & Kleck, 1976).

Unlike its stronger version, the weaker version of the FFH has received a consensus of support (McIntosh, 1996; Soussignan, 2002). These results highlight the two-way street between the emotions we feel and the emotions we express: Emotions activate facial expressions, and facial expressions, in turn, feedback to exaggerate and suppress the emotions we feel. Critics contend, however, that the contribution of such facial feedback is small and that other factors are more important (Matsumoto, 1987).

Are Facial Expressions of Emotion Universal across Cultures?

The FFH assumes that facial expressions are innate. But much facial behavior is also surely learned. It is a rare individual who has not learned to express the polite smile and to inhibit the angry face while talking with the boss. But the fact that some facial behavior is learned (and therefore under voluntary control) does not rule out the possibility that facial behavior also has a genetic, innate component, as proposed by the proponents of the FFH.

A series of cross-cultural investigations tested the proposition that human beings display similar facial expressions regardless of cultural differences (Ekman, 1972, 1994b; Izard, 1994). In each of these studies, representatives from diverse nationalities looked at three photographs, each showing a different facial expression (Ekman, 1972, 1993; Ekman & Friesen, 1971; Ekman, Sorenson, & Friesen, 1969; Izard, 1971, 1980, 1994). From these photographs, participants chose, via a multiple-choice format, the photograph they thought best expressed a particular emotion. For example, participants were shown photographs of three faces, one expressing anger, one expressing joy, and one expressing fear. The participants selected the picture they thought showed what a face would look like when the person encountered an injustice or obstacle to a goal (i.e., anger). The research question is whether persons from different cultures would agree on which facial expressions correspond with which emotional experiences. The finding that people from different cultures (different cultures, different languages, different nationalities) match the same facial expressions with the same emotions is evidence that facial behavior is cross-culturally universal (Ekman, 1994b; Ekman & Friesen, 1971; Izard, 1971).³ This is evidence that emotion-related facial behavior has an innate, unlearned component.

To test yourself as the participants in the cross-cultural experiments were tested, take a look at the photographs shown in Figure 13.5. The photographs show four different expressions of a New Guinea native (someone from a different culture than you; from Ekman, 1972). Your task is to identify the face that just encountered a contaminated object (i.e., disgust). If the task is a bit difficult, then it helps make the point that, although facial expressions of emotion are universal and cross-cultural, it is still true that facial expressions of emotion and their interpretation are open to considerable variation (Elfenbein & Ambady, 2002).

Skill in Recognizing Emotional Facial Expressions

With explicit training, people can learn how to recognize emotional facial expressions in others (Hurley, 2012; Matsumoto & Hwang, 2011). Some facial expressions are easier to recognize than are others. Joy (happiness) is generally the easiest facial expression of emotion to recognize, while fear tends to be the most difficult to recognize accurately (Beaudry et al., 2014; Calvo & Lundqvist, 2008; Montagne et al., 2007; Russell, 1994). People in Western cultures (e.g., the United States, Europe) tend to recognize facial expressions of emotion more accurately than do people in Eastern cultures (e.g., Asia; Russell, 1994). These East–West differences seem to arise because of culture-specific patterns of observation. Eastern observers mostly look at a person’s eye region when trying to judge a facial expression of emotion, whereas Western observers mostly look at a person’s mouth region (Jack et al., 2009). This is an important difference because the eye region provides more ambiguous information about emotion than does the mouth region (Calvo & Nummenmaa, 2008). From these data, it seems possible to conclude that if you were interested in improving your skill in accurately identifying emotional facial expressions in others, you could do so by observing the mouth region

³Research with infants supports the idea that facial behavior has a strong innate component (Izard et al., 1980) because presocialized infants show distinct, identifiable facial expressions. Blind children, who lack opportunity to learn facial expressions from others through modeling and imitation, show the same recognizable facial expressions as do children of the same age who can see (Goodenough, 1932). Severely children with intellectual disability, who have difficulty learning new motor behaviors, also show full expressions of the emotions (Eibl-Eibesfeldt, 1971).



Paul Ekman, Ph.D. / Paul Ekman Group, LLC

Figure 13.5 Which Facial Expression Shows Disgust? The photograph of the New Guinea native expressing disgust appears in the lower-right corner. Clockwise from the bottom-left are expressions of anger, joy, and distress. From “Universal and Cultural Differences in Facial Expression of Emotion” by P. Ekman, 1972, in J. R. Cole (Ed.), *Nebraska Symposium on Motivation* (Vol. 19, pp. 207–283), Lincoln, NB: University of Nebraska Press

of the face more and the eye region less. This conclusion seems to be especially true for emotions such as fear and sadness. Looking into the eyes seems necessary, however, for anger accuracy and looking in the nose region seems necessary for disgust accuracy.

COGNITIVE ASPECTS OF EMOTION

For those who study emotion from a cognitive perspective, biological events are not necessarily the most important aspects of emotion. Cognitive theorists acknowledge the biological contribution to emotion (Parkinson, 2012), but they further argue that emotion and emotion activation are both deeply immersed within cognitive activity. These theorists see emotions as adaptive responses that reflect cognitive appraisals and cognitive mental representations (e.g., the self-concept) that interpret environmental events as being significant to one’s well-being, and they tend to focus on complex emotions. They point out that an emotion such as “disappointment” cannot be explained by ANS activity or changes in facial expressions but, instead, by a cognitive understanding of what it means to not have what you expected you would have (van Dijk, Zeelenberg, & van der Pligt, 1999). Similarly, “shame” is not activated by subcortical brain structures but, rather, by a cognitive evaluation that the self is inferior or damaged in some important way (Tangney & Dearing, 2002).

Appraisal

The central construct in a cognitive understanding of emotion is appraisal (Moors, Ellsworth, Scherer, & Frijda, 2013).

Definition

Appraisal is a cognitive process that evaluates the significance of environmental events in terms of one's well-being (e.g., "Is this situation significant to me?"). Well-being is driven by the individual's goals, needs, values, beliefs, and attachments or personal relationships. That is, appraisal involves basically everything the person cares about. Appraisal also affects each aspect of an emotional episode, including the feeling state, sense of purpose, bodily preparation, and expressive signals (Frijda, 2007; Reisenzein, 1994). Because appraisal causes a change in each aspect of an emotion, appraisal theorists conclude that appraisal causes emotion (Moors, 2013).

Appraisals change over time. Appraisals change as the person's perception of the environment changes, and appraisals change as the person's perception of the person–environment interaction changes. As appraisals change, so do the person's feelings, bodily readiness, action tendencies (sense of purpose), expressive signals, and coping behaviors. These changed emotional reactions typically produce changes in the environment and changes in the person–environment interaction, which again change the person's appraisals. The overall picture is that the emotion process is continuous and recursive, not a quick burst of activity that lasts for only a second or two.

Consider a child who sees a man approaching. Immediately and automatically, the child appraises the meaning of the man's approach as probably "good" or probably "bad." The appraisal is an evaluation of the salient characteristics of the man approaching (gender, facial expression, pace of approach), expectations of who might be approaching, beliefs of what approaching people typically do, and memories of approaching people in the past. It is not the approaching man *per se* that explains the quality of the child's emotional reaction, but rather, it is how the child expects that the approaching man will affect her well-being that gives life to her emotion. If she sees the approaching man smiling and waving and if she remembers the man is her friend, then she will likely appraise the event as a good one. If she sees the approaching man ranting and raving and if she remembers the man is the neighborhood bully, then she will likely appraise the event as a bad one. These appraisals lead to specific action tendencies (motivations), expressive signals, bodily changes that mobilize coping responses, and the instrumental behavior that is coping. If the child did not appraise the personal relevance of the approaching man, she would not have had an emotional reaction to the man in the first place because events that are irrelevant to well-being do not generate emotions (Lazarus, 1991a; Ortony & Clore, 1989; Ortony, Clore, & Collins, 1988). This example illustrates the four central beliefs that are shared by all appraisal emotion theorists (Ellsworth, 2013; Frijda, 2007; Lazarus, 1991a; Oatley & Johnson-Laird, 1987; Ortony et al., 1988; Roseman, 1984; Scherer, 2009; Smith & Ellsworth, 1985; Weiner, 1986):

1. Without an antecedent cognitive appraisal of the event, emotions do not occur.
2. The appraisal, not the event itself, causes the emotion.
3. Emotion is a process.
4. If the appraisal changes, even if the situation does not, then the emotion will change.

One of the earliest cognitive theorists was Magda Arnold (1960, 1970). She specified how appraisals, brain activity, and arousal work together to produce emotion by focusing on three questions: (1) How does the perception of an object or event produce a good or bad appraisal? (2) How does the appraisal generate emotion? and (3) How does felt emotion express itself in action? Arnold's pioneering appraisal theory of emotion is summarized in Figure 13.6 (see also Cornelius, 2006).

From Perception to Appraisal

According to Arnold, people categorically appraise stimulus events and objects as positive or negative. This good/bad appraisal was simply a gut-felt evaluation of the stimulus event.



Figure 13.6 Arnold's Appraisal Theory of Emotion

She recognized that the duration of time between the presentation of a stimulus and the onset of an emotional reaction to that stimulus was so remarkably brief that the appraisal process that took place between stimulus and emotional reaction must therefore be fairly simple (and hence fast). To substantiate her ideas, Arnold paid particularly close attention to the neurological pathways in the brain. In all encounters with the environment, subcortical brain structures (e.g., the amygdala) automatically appraise the hedonic tone of sensory information. For instance, a harsh sound instantaneously is appraised as intrinsically unpleasant (bad), while the smell of a rose is appraised as intrinsically pleasant (good). Recent neuroanatomical research confirms Arnold's claim that the subcortical brain (and amygdala in particular) is the focal brain center that appraises the emotional significance of sensory stimuli (Berridge & Kringelbach, 2008; LeDoux, 2012). In addition, most stimuli are further appraised cortically by adding information processing and hence expectations, memories, beliefs, goals, judgments, and attributions (Davidson & Irwin, 1999; Ochsner & Gross, 2005). Full appraisal therefore draws on both automatic subcortical and reflective cortical evaluations of the stimulus event in terms of sensory information and in terms of the person's goals and preferences.

From Appraisal to Emotion

Once an object has been appraised as good or bad (as beneficial or harmful), an experience of liking or disliking follows immediately and automatically. For Arnold, the liking or disliking was the felt emotion. Contemporary research has backed up Arnold's belief that the like–dislike appraisal is both fast and automatic (Moors, De Houwer, & Eelen, 2004).

From Felt Emotion to Action

Liking generates a motivational tendency to approach the emotion-generating object; disliking generates a motivational tendency to avoid it. This motivational tendency represents an action readiness to approach versus avoid.⁴

Motivational Reflex Model

A contemporary version of Arnold's theory is the motivational reflex model (Bradley et al., 1990; Bradley et al., 2001). The motivational reflex model states that any stimulus is automatically categorized as either good or bad, which, in turn, activates the corresponding approach or avoidance motivational system, which, in turn, almost reflexively (automatically) prepares the person to approach the potential benefit or to avoid the potential threat (Eder, Elliot, & Harmon-Jones, 2013).

⁴One important feature of Arnold's theory is that emotion is defined in terms of motivation. The tendency to approach or avoid gives the emotion a directional force, while the physiological changes in the muscles and viscera give emotion its energy. A second important feature of Arnold's theory treats emotion as a unitary construct, because she preferred to talk about emotion forces of approach and avoidance, of attraction and repulsion, and of liking and disliking more than she did of specific emotions such as anger, sadness, or pride.

Complex Appraisal

Like Arnold, Richard Lazarus emphasized the cognitive processes that intervene between important life events (environmental conditions) and physiological and behavioral reactivity (coping). While following Arnold's ideas as a road map, Lazarus expanded her general good/bad appraisal into a more complex conceptualization of appraisal (Lazarus, 1968, 1991a; Lazarus & Folkman, 1984). "Good" appraisals were conceptualized into several types of benefit, while "bad" appraisals were differentiated into several types of harm and several types of threat. Lazarus's (1991a) complex appraisals framework appears in Figure 13.7.

In articulating a more complex portrayal of appraisal, Lazarus pointed out that people evaluate whether the situation they face has personal relevance for their well-being. When well-being is at stake, people then evaluate the potential harm, threat, or benefit they face. For Lazarus (1991a), these appraisals take the form of questions such as: Is this event relevant to my well-being? Is this event consistent with my goals? How deeply does this event touch my self-esteem? Given these appraisals of personal relevance, goal congruence, and ego involvement, people appraise situations as particular kinds of harm, kinds of threat, or kinds of benefit (Lazarus, 1991a, 1994).

The appraisal process does not end with an assessment of personal relevance, goal congruence, and ego involvement. Perceived coping abilities continue to alter how people interpret (appraise) the situations they face (Folkman & Lazarus, 1990; Lazarus, 1991a, b). The person asks him- or herself, can I cope with the potential benefit, threat, or harm I face? Can I bring the benefit to fruition, and can I prevent or lessen the harm or threat? Anticipated coping changes the way a situation is appraised (if I can cope with the threat, then it is not really much of a threat). A changed appraisal leads to a changed emotion. Overall, then, people first appraise their relationship to the life event ("primary appraisal") and then appraise their coping potential within that event ("secondary appraisal").

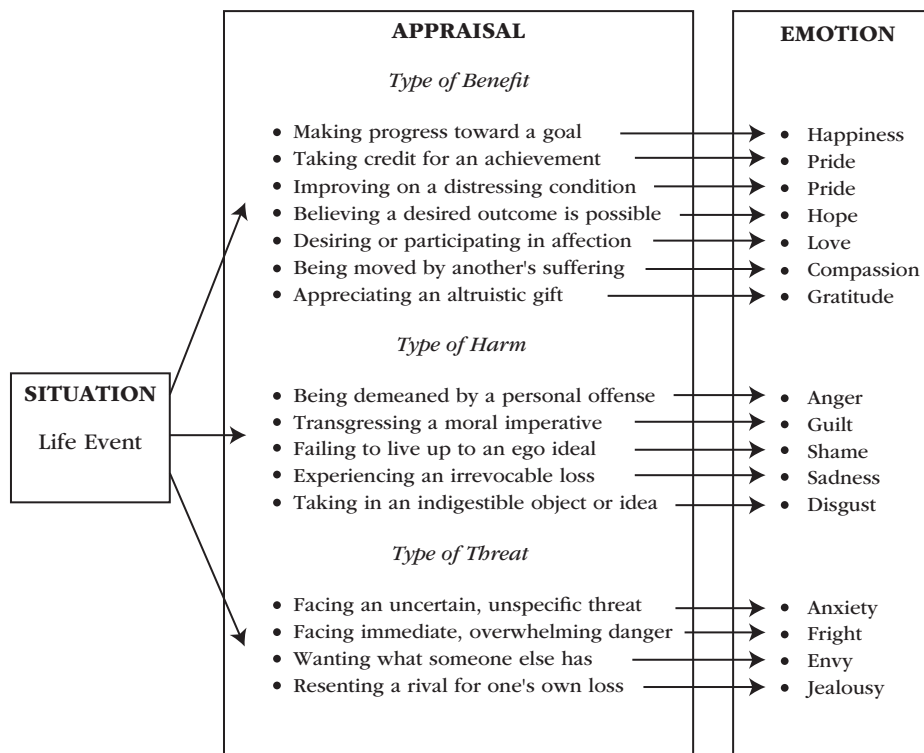


Figure 13.7 Lazarus's Complex Appraisals: Types of Benefit, Harm, and Threat

Primary Appraisal

Primary appraisal involves an estimate of whether one has anything at stake in the encounter (Folkman et al., 1986). The following are potentially at stake during a primary appraisal:

1. Health
2. Self-esteem
3. A goal
4. Financial state
5. Respect
6. Well-being of a loved one

In other words, primary appraisals ask whether one's physical or psychological well-being, goals and financial status, or interpersonal relationships are at stake during a particular encounter. As soon as one of these is at stake, an "ordinary life event" becomes an emotion-generating "significant life event." For instance, when driving a car and it swerves on ice, the cognitive system immediately generates the primary appraisal that much is now at stake—personal health, reputation as a skillful driver, a valuable possession (the car), and the physical and psychological well-being of one's passenger.

Secondary Appraisal

Secondary appraisal, which occurs after some reflection, involves the person's assessment for coping with the possible benefit, harm, or threat (Folkman & Lazarus, 1990). Coping involves the person's cognitive, emotional, and behavioral efforts to manage the benefit, harm, or threat. For instance, imagine the coping options for a musician scheduled to perform for an audience. The musician might solicit advice from a mentor, practice throughout the night, escape from the situation, make a plan of action and follow through, copy another musician's style, joke and make light of the event's significance, and so forth. The musician's emotional experience will depend not only on his initial appraisal of the potential benefit, harm, or threat within the evening's performance but also on his reflection on the potential efficacy of his coping strategies to realize the benefit or prevent the harm or threat.

Motivation

Lazarus's portrayal of emotion is a motivational one. A person brings personal motives (goals, well-being) into a situation. When personal motives are at stake, emotions follow. Furthermore, emotions constantly change as primary and secondary appraisals change. The whole emotion process is characterized not so much by the linear sequence of life event → appraisal → emotion as it is by the ongoing change in the status of one's personal motives. Life events offer potential benefits, harms, and threats to well-being, and ongoing coping efforts have important implications for the extent to which those benefits, harms, and threats are realized. So, the individual's personal motives (goals, well-being) lie at the core of the emotion process and the individual continually makes primary and secondary appraisals about the status of those personal motives as events unfold and coping efforts are implemented.

Lazarus labels his emotion theory as a cognitive–motivational–relational one (Lazarus, 1991b). *Cognitive* communicates the importance of appraisal, *motivational* communicates the importance of personal goals and well-being, and *relational* communicates that emotions arise from one's relation to the environment (i.e., threat, harm, or benefit).

Appraisal as a Process

The appraisal framework to understand emotion was proposed by Arnold, developed by Lazarus, and brought to its maturity by present-day emotion theorists. Inspired by Lazarus's concept of a complex appraisal, cognitively based emotion theorists worked to develop an increasingly sophisticated understanding of the appraisal process (Ellsworth, 2013; Frijda, 2007; Lazarus, 1991a; Johnson-Laird & Oatley, 1989; Oatley & Johnson-Laird, 1987; Ortony et al., 1988; Roseman, 1984, 1991; Roseman & Evdokas, 2004; Scherer, 2009; Smith & Ellsworth, 1985; Weiner, 1986). Like Lazarus, these researchers showed rather clearly that different appraisals caused different emotions. Each appraisal theorist embraced the life event → appraisal → emotion sequence, but they differed on how many dimensions of appraisal are necessary to explain emotional experience. Arnold used appraisal to explain two emotions (like and dislike), Lazarus used primary and secondary appraisals to explain approximately 15 emotions (see Figure 13.7), yet cognitive emotion theorists ultimately seek to use appraisals to explain *all* emotions.

These cognitive theorists believe that each emotion can be described by a unique pattern of multiple appraisals. The thinking is that if one were able to know the full pattern of a person's appraisals, then it would be a rather straightforward task to predict which ensuing emotion the person would experience. The following list of additional appraisals represents the thinking of most cognition-minded emotion theorists (Moors et al., 2013):

Arnold's Appraisal:

| | |
|---------|---------------------------|
| Valence | Is the event good or bad? |
|---------|---------------------------|

Lazarus's Appraisals:

| | |
|------------------|---|
| Goal Relevance | Is the event relevant to my goals and well-being? |
| Coping Potential | Can I cope successfully with the event? |

Additional Appraisals:

| | |
|-------------------------|--|
| Goal Congruence | Is the event facilitating my goal attainment? |
| Novelty | Did I expect the event to happen? |
| Agency | Who caused the event: self? others? circumstances? |
| Self/Norm Compatibility | Is the event okay on a moral level? |

The four new additional appraisals are goal congruence, novelty, agency, and self/norm compatibility. *Goal congruence* is an evaluation of whether the external event is working to facilitate (versus block, thwart) one's progress toward goal attainment or motive satisfaction. *Novelty* is detection of a change in the environment. *Agency* is an attribution of the cause of the event, because events can be caused by the self, by someone else, or by impersonal circumstances. *Self/Norm compatibility* is an evaluation of how compatible versus incompatible (how acceptable versus unacceptable) the event is with one's self-concept or personal standards. Together, these appraisals provide a rather comprehensive picture of the sort of appraisals people across many different cultures use (Scherer, 1997a).

Consider how a combination of several different appraisals can produce one specific emotion. Sadness, for instance, is a combination of the following four appraisals: (1) A valued goal is at stake (goal relevance); (2) no progress was made toward the goal (low goal congruence); (3) the goal was lost (unpleasant intrinsic value); and (4) it is not possible to regain what was lost (low coping potential). That is, high personal relevance + low goal congruence + unpleasant intrinsic value + low coping potential = sadness. If the appraisal pattern were to change so that low coping potential was reevaluated to be high coping potential, then anger would replace sadness, as anger = high personal relevance + low goal congruence + unpleasant intrinsic value + high coping potential.

The ultimate goal of the appraisal emotion theorists is perhaps now apparent. They are hard at work to construct a decision tree in which all possible patterns of appraisal lead to a single emotion (Scherer, 1993, 1997b). That is, if the person makes appraisals X, Y, and Z, then emotion A will surely and inevitably follow.

Emotion Differentiation

The strong suit of an appraisal theory of emotion is its ability to explain emotion differentiation. Emotional differentiation is the phenomenon in which people experience different emotions for the same event. It also concerns how the same person can experience different emotions for the same event at different times. Emotional differentiation is actually the number one contribution that appraisal theory makes to the study of emotion. Unlike the biological perspective that explains how everyone experiences the same emotion to the same fundamental life event (i.e., everyone feels sad after the loss of a valued object), the appraisal theory of emotion can explain how different emotions emerge from the same event. Emotional differentiation occurs because different people appraise the same event differently and also because the same person appraises the same event differently at two different times.

Emotional differentiation occurs even within a single emotional episode. Those who use a neuroscientific perspective to study the appraisal process (Brosch & Sander, 2013) examine the appraisal process during an emotional episode on a millisecond-to-millisecond basis. They find that when the person encounters an external event, that stimulus event is very quickly appraised for its novelty and goal relevance, based largely on its sensory information. These two appraisals begin about one-tenth of a second after stimulus exposure and they feed-forward this novelty and goal relevance evaluative information to other brain areas for further processing. Brain structures such as the amygdala then orchestrate further appraisals and information processing as the stimulus event is appraised for goal congruence and agency. These appraisals occur about one-half of a second after stimulus exposure. As the appraisal process continues, information processing expands from just sensory stimulus information to learned associations and eventually to the accessing of stored information such as self/norm compatibility and predictive forecasts of the future, as with coping potential. Because these later appraisals feedback to combine with the earlier appraisals, the emotion may change—may undergo emotion differentiation. After several evaluative iterations and several seconds of time, the appraisal pattern begins to stabilize to the point that the person settles on what the stimulus event means for his or her goals and well-being.

An appraisal decision tree, however, will never predict ensuing emotions correctly 100 percent of the time (Oatley & Duncan, 1994). Appraisal theorists generally agree that knowing a person's particular configuration of appraisal allows them about a 65–70 percent accuracy rate in predicting people's emotions (Reisenzein & Hofman, 1993). Critics are a bit tougher in stating these odds—one researcher put the odds at only about 25 percent, a little higher for anger, a little lower for sadness, fear, and guilt (Tong, 2010). Five reasons explain why appraisals are not sufficient for emotion and, hence, why appraisal theory cannot explain emotional reactions with 100 percent accuracy (Berkowitz & Harmon-Jones, 2004; Fischer, Shaver, & Carnochan, 1990; Reisenzein & Hofman, 1993; Scherer, 1997b):

1. Processes other than appraisal contribute to emotion (as discussed in the first half of this chapter).
2. Appraisals often function only to intensify (rather than cause) the emotion (e.g., low coping potential intensifies, but does not cause, anger).
3. The patterns of appraisals for many emotions overlap (e.g., guilt and shame have similar patterns of appraisal).

4. Developmental differences exist among people such that children experience only general emotions (e.g., joy), whereas adults generally experience a richer variety of appraisal-specific emotions (e.g., pride, relief, gratitude).
5. Emotion knowledge and causal attributions (the next two topics in this chapter) represent additional cognitive factors beyond appraisal that affect emotion.

Emotion Knowledge

Infants and young children understand and distinguish between only a few basic emotions. They learn to name the few basic emotions of anger, fear, sadness, joy, and love (Kemper, 1987; Shaver et al., 1987). As people gain experience with different situations, they learn to discriminate shades within a single emotion. The shades of joy, for instance, include happiness, relief, optimism, pride, contentment, and gratitude (Ellsworth & Smith, 1988). These distinctions are stored cognitively in hierarchies of basic emotions and their derivatives. Thus, the number of different emotions any one person can distinguish constitutes her *emotion knowledge* (Shaver et al., 1987).

As a point of illustration, how many shades (different types) of anger can you name? For those different shades of anger (Russell & Fehr, 1994), can you explain why they are different (e.g., in what way is frustration different from rage?). Figure 13.8 shows the different shades of emotion that define the anger family, and it can be used to ask an interesting question of how simple (unidimensional) is your own personal understanding of the causes-experiences-consequences of anger to self-assess how complex-sophisticated-differentiated is your understanding of anger and its shades?

Emotion knowledge is the ability to differentiate emotional experience into discrete categories (anger versus fear) and to differentiate one particular basic emotion into its various shades (anger versus irritation, frustration, hostility, and rage) (Barrett, Gross, Christensen, & Benvenuto, 2001). It refers to the level of complexity individuals rely on to identify, label, and mentally represent their emotional experience (Lischetzke et al., 2005). People with low emotion knowledge tend to think about emotions in global terms (e.g., “I feel good”), whereas people with high emotion knowledge tend to use specific and situationally specific terminology (Barrett, 2004; Feldman, 1995).

The depth, complexity, and sophistication of a person’s emotion knowledge is important because greater emotion knowledge leads to greater psychological well-being (Palmer, Donaldson, & Stough,

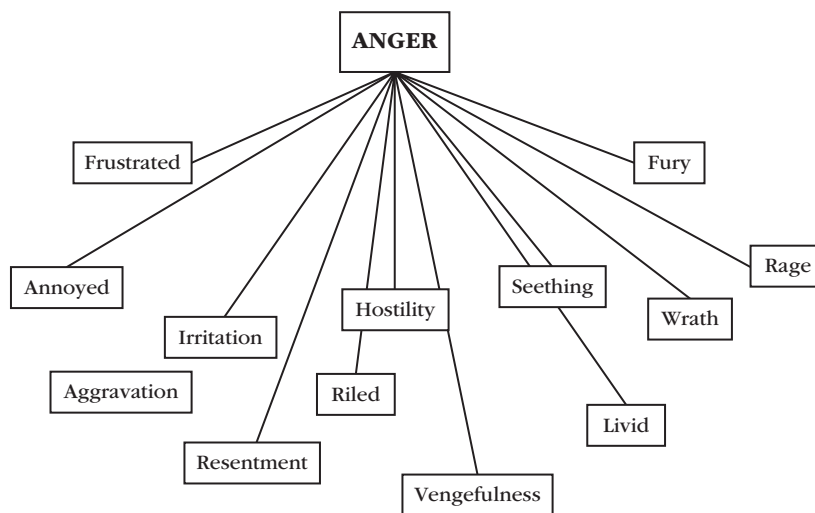


Figure 13.8 Shades of Anger (Anger Family of Emotions)

2002; Tugade, Fredrickson & Barrett, 2004) and to better emotion regulation strategies. With sophisticated emotion knowledge, the person targets some particular emotions for regulation (Barrett & Gross, 2001) and facilitates the choosing and implementation of a strategy that has the best chance of regulating that emotion successfully. Sophisticated emotion knowledge also decreases emotional variability (Thompson, Dizen, & Berenbaum, 2009), and it decreases negative emotional variability in particular (Pond et al., 2012), because people with sophisticated emotion knowledge know clearly what they are feeling, what did and what did not cause them to feel that way, and which behavior and which coping strategies will most effectively deal with the emotion-eliciting event at hand.

Attributions

Attribution theory rests on the assumption that people very much want to explain why they experienced a particular life outcome (Heider, 1958; Jones & Davis, 1965; Kelley, 1967, 1973; Weiner, 1980, 1985, 1986). Following an outcome, we ask: “Why did I fail that chemistry examination? Why did the Yankees win the World Series? Why did Suzy drop out of school? Why is this person rich while that person is poor? Why didn’t I get that job? Why didn’t Frank return my telephone call?”

An attribution is the reason the person uses to explain an important life outcome (Weiner, 1985, 1986). It is the causal explanation to answer why an outcome occurred. For instance, if we answer the question, “Why did I fail that chemistry test?” by saying, “because I didn’t study for it,” then “low effort” is the attribution to explain the failure.

Attributions are important because the explanation we use generates emotional reactions. Following positive outcomes, people generally feel happy, and following negative outcomes, people generally feel sad or frustrated. In his attributional theory of emotion, Bernard Weiner (1985, 1986) refers to the outcome-dependent emotional reaction as a “primary appraisal of the outcome.” Basic emotions of happy and sad simply follow good and bad outcomes (Weiner, Russell, & Learman, 1978, 1979). More importantly, attribution theory proposes that in addition to these primary outcome-generated emotional reactions, people further explain why they succeeded or failed. Once the outcome has been explained, new emotions surface to differentiate the general happy–sad initial emotional reaction into specific secondary emotions. The attribution of why the outcome occurred constitutes the “secondary appraisal of the outcome.” The sequence of events in Weiner’s attribution theory of emotion appears in Figure 13.9.

As depicted in Figure 13.9, seven emotions occur in reliable ways as a function of the attributional information-processing flow (Weiner, 1985, 1986; Weiner & Graham, 1989). The attributional roots to the seven emotions are as follows:

| | |
|-----------------|--|
| Pride | Attributing a positive outcome to an internal cause “I succeeded because of my outstanding effort.” |
| Gratitude | Attributing a positive outcome to an external cause “I succeeded because of help from my teammates.” |
| Hope | Attributing a positive outcome to a stable cause “I do well in sports because I am athletic by nature.” |
| Anger | Attributing a negative outcome to an external-controllable cause “I lost because my opponent cheated.” |
| Pity (Sympathy) | Attributing a negative outcome to an external-uncontrollable cause “I lost my job because of the poor economy.” |
| Guilt | Attributing a negative outcome to an internal-controllable cause “I lost because I didn’t put forth much effort.” |
| Shame | Attributing a negative outcome to an internal-uncontrollable cause “I was rejected because I am ugly.” |

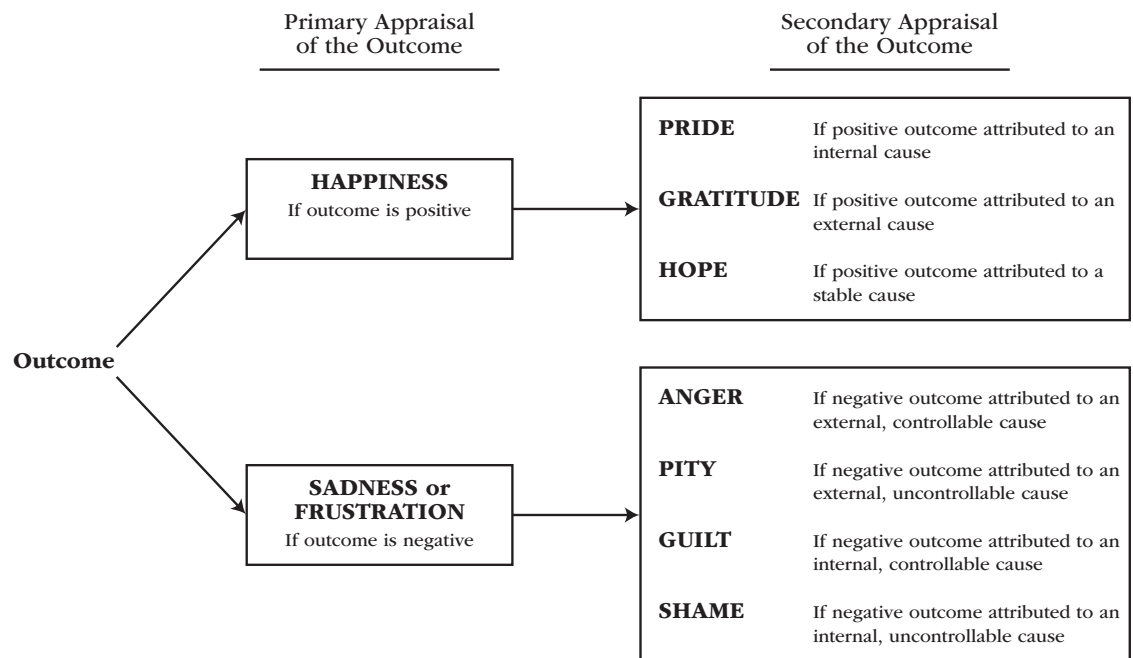


Figure 13.9 Attribution Theory of Emotion

Notice that in each of these seven emotions (three positive, four negative), the attributional analysis of why the outcome came to pass is causally prior to the specific emotion. For instance, the fundamental assertion of an attributional analysis of emotion is that if the attribution was to change, then the emotion would change as well (i.e., change the attribution, change the emotion). If a student feels pride because she feels her effort won her a scholarship, and if the student then learns that the real reason she won the scholarship was because of someone's strong support of her application during a meeting, then the experienced emotion flows from pride into gratitude. The outcome is the same (she won the scholarship), but when the attribution changed so did the emotional reaction.

Appraisal theorists begin their analysis with relatively simple appraisals, such as whether an event signifies harm, threat, or danger (Lazarus, 1991a). They continue with progressively more complex appraisals, such as self/norm compatibility. Cognitive theorists then add emotion knowledge to explain further how people make fine-tuned appraisals. In his attributional analysis, Bernard Weiner (1982, 1986) adds yet one more type of cognitive appraisal to help explain emotion—the post-outcome appraisal of why the outcome occurred. Thus, the role of cognition is not only to appraise the meaning of the life event (appraisal) but also to appraise why the life outcome turned out the way it did (attribution) (Leon & Hernandez, 1998).

Emotions Affect Cognition

The theme of the second part of this chapter has been that cognition affects emotion. But it works the other way too, because emotion affects cognition. The effect that individual emotions have on cognitive events is about the same in magnitude as the effect of emotion on feeling states, bodily preparation for action, motivational sense of purpose, and expressive signals (Lench, Flores, & Bench, 2011). That is, emotional states and emotional episodes affect and cause cognitive events such as attentional engagement, judgment, decision making, interpretation, risk taking, reasoning, short-term working memory, and long-term memory storage and retrieval (Angie, Connelly, Waples, & Kligyte, 2011; Blanchette & Richards, 2010; Derakshan & Eysenck, 2010; Lench et al., 2011; Lerner & Keltner, 2001; Yeghyan & Yonelinas, 2011). While this is a very important point, it is not all that surprising, because emotions have such robust effects. Emotions affect and coordinate people's feeling states, bodily preparation for action, motivational sense of purpose, expressive signals, *and* cognition.

This finding—that emotion changes cognition—might lead some to think that the four components of emotion (Figures 12.1 and 12.2) should be expanded from four to five. That is, the emotional components of feeling, purpose, bodily preparation, and expressive signals should add the fifth component of cognition. But that would be a conceptual mistake. Cognition, like coping behavior, is a result of emotion, rather than one of its component aspects.

SOCIAL ASPECTS OF EMOTION

Other people are typically our most frequent source of day-to-day emotion (Oatley & Duncan, 1994). We experience a greater number of emotions when interacting with others than when we are alone.

Social Interaction

If you kept track of which events and experiences caused your emotional reactions—another person's action, an action of your own, something you read or saw—you would likely discover that

interactions with others triggered most of your emotions (Oatley & Duncan, 1994). Emotions are intrinsic to interpersonal relationships. They also play a central role in creating (joy), maintaining (sadness), and dissolving (anger) interpersonal relationships, as emotions draw us together and emotions push us apart (Fischer & Manstead, 2008; Levenson, Carstensen, & Gottman, 1994; Levenson & Gottman, 1983).

Other people not only directly cause emotions to stir in us, but they also affect us indirectly, as through emotional contagion. Emotional contagion is “the tendency to automatically mimic and synchronize expressions, vocalizations, postures, and movements with those of another person and, consequently, to converge emotionally” (Hatfield, Cacioppo, & Rapson, 1993a). The three propositions of mimicry, feedback, and contagion explain how, during social interaction, the emotions of others indirectly create emotions in us (Hatfield, Cacioppo, & Rapson, 1993b):

- Mimicry: “In conversation, people automatically mimic and synchronize their movements with the facial expressions, voices, postures, movements, and instrumental behaviors of other people.”
- Feedback: “Emotional experience is affected, moment to moment, by the activation of and feedback from facial, vocal, postural, and movement mimicry.”
- Contagion: “Consequently, people tend to ‘catch’ other people’s emotions.”

As we are exposed to the emotional expressions of others, we tend to mimic their facial expressions (Dimberg, 1982; Strayer, 1993), speech style (Hatfield et al., 1995), and posture (Bernieri & Rosenthal, 1991). Once mimicry occurs, the FFH illustrates how mimicry (of not only the face, but also voice and posture) can affect the observer’s emotional experience, and hence lead to a contagion effect.

Social Sharing of Emotion

During social interaction, we not only expose ourselves to a rich source of emotionally eliciting events and to emotional contagion effects, but we also put ourselves into a conversational context that provides an opportunity to reexperience and relive past emotional experiences, a process referred to as the social sharing of emotion (Rimé, 2009; Rimé, Mesquita, Philippot, & Boca, 1991). Social sharing of emotion is a conversational event in which one person who has experienced an emotional episode talks openly with an interaction partner about the circumstances of the event and his or her feelings and emotional reactions to it. In social sharing, the person gains attention and empathy, but he or she also undertakes a reflective effort to unpack the emotional material (e.g., contextual circumstances, antecedent causes, emotional processes, interpretation of events, consequences), labels that emotional material, organizes it into an emotional story that communicates what happened and what obstacles were encountered, and shares what was felt and thought. Social sharing occurs following the vast majority of emotional episodes (about 90 percent of the time; Rimé, 2009), more often involves positive emotional episodes rather than negative ones, and is most likely to occur on the same day as the emotional episode (about 60 percent of the time; Rimé, 2009), although social sharing also takes place days, weeks, months, or even years after the eliciting emotional event.

When people share their emotions, they typically do so by recounting the full account of what happened during the emotional episode, what it meant, and how the person felt throughout. Just sharing a negative emotional episode (i.e., talking about it, or just venting) is not sufficient to dissipate that emotion (Rimé, 2009). Rather, people share emotions in different ways and with different effects. One way people share their emotional experiences is social-affectively, when the speaker solicits and the listener provides support, comfort, validation, and empathy. Another way people share their

emotional experience is in terms of cognitive sharing when the speaker asks for and the listener stimulates the cognitive work necessary to recover from the felt sadness, fear, or anger episode.

| | |
|---------------------------|---|
| Social-Affective Sharing: | Listening; understanding; unconditional positive regard; comforting; offering consolation; caring; reassuring; perspective taking and empathy; revalidating self-esteem; providing social and concrete help and assistance. |
| Cognitive Sharing: | Reframing the event; reappraising the emotional episode; creating meaning; encouraging the abandonment of failed goals; reprioritizing one's goals and motives. |

People share their emotions with others primarily to better regulate those emotions. Social-affective sharing helps regulate emotion, especially negative emotion, by temporarily alleviating emotional distress. It is particularly beneficial in the early stages of the emotional event, because it does generally provide a state of temporary relief from one's distress, fear, anger, anxiety, insecurity, or sense of helplessness. But social-affective sharing is not sufficient to attain emotional recovery. Emotional recovery—getting over and getting beyond the distress, fear, or anger—requires cognitive sharing in which the other person helps the person reframe or reappraise the emotional event. Cognitive sharing is something more akin to therapy, because it provides an opportunity for reappraisal, deeper understanding, and more effective coping. Cognitive sharing helps bring distressing emotional episodes to an end (Brans et al., 2013). Importantly, if the social sharing of emotion involves only social-affective sharing (and not cognitive sharing), then it tends to produce a temporary distress relief but not much more. Part of the reason for this is because most listeners are not all that skilled in helping the person work cognitively and competently through the emotional episode (Nils & Rimé, 2012).

The social sharing of an emotional experience instigates an interpersonal dynamic that brings two people closer together. The rapid emotional coding and decoding that takes place during social sharing enhances the perception that the other is a good social partner (Butler, Lee, & Gross, 2007). This interpersonal dynamic is illustrated graphically in Figure 13.10. According to Rimé (2009), person 1 experiences an emotion and conversationally shares it with person 2. Person 2 then reacts with interest, because emotional stories are frequently viewed as inherently interesting events. Person 1 takes person 2's expressed interest as a social signal to socially share more. Listening to social sharing that is elaborative enough to produce a full emotional story functions as an emotion-eliciting situation for person 2 (Strack & Coyne, 1983). The social sharing then begins to generate a social connection between the two interactants, because it is in experiences such as perceived similarity and greater empathy that a social connection is facilitated and begins to open the pair up to nonverbal communications such as eye contact, vocal mimicry, and touching. This enhanced relationship leads person 2 to a greater desire to help person 1 work through social-affective support and cognitive restructuring. Helping leads person 2 to like person 1 more, and the received interpersonal support leads person 1 to like person 2 more. Hence, what began as the social sharing of an emotional experience evolves into a closer and more positive interpersonal relationship between speaker and listener. It is in these times of sharing our emotions that we build and maintain the relationships that are central to our lives (Edwards, Manstead, & MacDonald, 1984), such as in friendship and marriage (Noller, 1984).

Overall, the conclusions from the social sharing of emotion are as follows: (1) Social sharing of emotion is the norm in emotional experience, not the occasional exception that people only sometimes do; (2) social sharing sets the stage for interpersonal dynamics that bring the sharer and the listener closer together; (3) social-affective sharing is commonplace but generally yields little benefit beyond temporary relief; and (4) cognitive sharing stimulates the cognitive work necessary for emotional healing and recovery (Rimé, 2009). More generally, research on the social sharing of emotion makes the larger point that emotional episodes are social experiences. This research also challenges

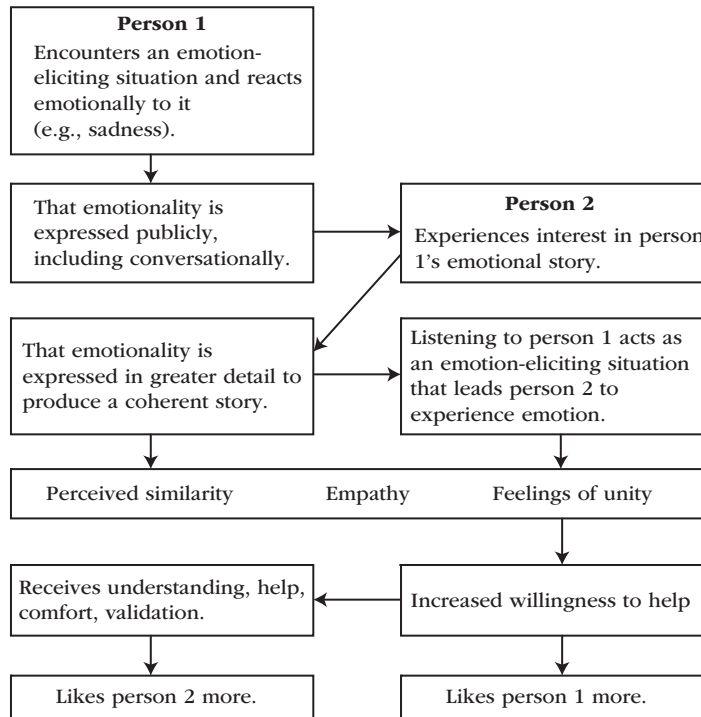


Figure 13.10 Rimé's Model of the Interpersonal Dynamics in the Social Sharing of an Emotional Experience

the common view that emotion is a short-lived, intrapersonal experience, because it argues alternatively that emotional experiences routinely endure for days, weeks, and even years, partly because they are retold and relived through this process of social sharing.

SUMMARY

Three central aspects of emotion exist: biological, cognitive, and social. The chapter begins with a biological analysis of emotion because emotions are, in part, biological reactions to important life events. They serve coping functions that allow the individual to prepare to adapt effectively to important life circumstances. Emotions energize and direct bodily actions (e.g., running, fighting) by affecting (1) the ANS and its regulation of the heart, lungs, and muscles; (2) neural brain circuits such as those in the subcortical brain; and (3) facial feedback and discrete patterns of the facial musculature.

Research on the biological underpinnings of emotion identify that the activation of between two and eight basic emotions can be understood from a biological perspective. For instance, the basic emotions of anger, fear, sadness, and disgust show ANS specificity in that the pattern of heart rate, skin temperature, and skin conductance is different for each emotion. Similarly, the basic emotions of anger, fear, sadness, disgust, and sadness are associated with a specific subcortical brain area. The FFH asserts that the subjective aspect of emotion is actually the awareness of proprioceptive feedback from facial action. According to the strong version of this hypothesis, posed facial expressions activate specific emotions, such that smiling activates joy. According to the weak version of this hypothesis, exaggerated and suppressed facial expressions augment and attenuate naturally occurring emotion. Although research is mixed on the strong version, evidence confirms the validity of the weaker version.

The central construct in a cognitive understanding of emotion is appraisal. Appraisal is a cognitive process that evaluates the significance of environmental events in terms of the person's goals and well-being. Cognitively minded appraisal emotion researchers embrace all of the following beliefs: (1) Without an antecedent cognitive appraisal of the event, emotions do not occur; (2) the appraisal, not the event itself, causes the emotion; (3) emotion is a process; and (4) if the appraisal changes, even if the situation does not, then the emotion will change. To explain virtually all complex emotions—not just the two to eight basic emotions emphasized by the biologically minded theorists—cognitive emotion researchers emphasize seven appraisals. Environmental events are evaluated in terms of their valence (is the event good or bad?), goal relevance (is the event relevant to my goals and well-being?), coping potential (can I cope successfully with the event?), goal congruence (is the event facilitating my goal attainment?), novelty (did I expect the event to happen?), agency (who caused the event?), and self-norm compatibility (is the event okay on a moral level?). Different patterns of these appraisals produce different emotions and explain why two different people can experience different emotions even to the same event.

Emotion knowledge is the ability to differentiate one broad emotion (anger) into its different more situation-specific shades (frustration, rage). The depth, complexity, and sophistication of a person's emotion knowledge is important because greater emotion knowledge leads to more effective and situationally appropriate coping as well as to greater psychological well-being. An attribution is the reason the person uses to explain an important life outcome. If the attribution for an outcome were to change (e.g., "I won because of my effort" changed to "I won because I received excellent instruction"), then the emotion would change (from pride to gratitude).

In a social analysis of emotion, other people are our richest sources of emotional experiences. During social interaction, we often "catch" other people's emotions through a process of emotion contagion that involves mimicry, feedback, and, eventually, contagion. We also share and relive our emotional experiences during conversations with others, a process referred to as the social sharing of emotion. Social sharing of emotion is commonplace, brings the sharer and the listener closer together, usually provides only temporary distress relief, but can potentially stimulate the cognitive work necessary for emotional healing and recovery.

READINGS FOR FURTHER STUDY

Biological Aspects of Emotion

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Social Aspects of Emotion

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Individual Emotions

BASIC EMOTIONS

Fear

Anxiety

Posttraumatic Stress Disorder

Phobias

Anger

Disgust

Contempt

Sadness

Depression

Emotional Preparation for Threat and Harm

Joy

Interest

Emotional Preparation for Motive Involvement and Satisfaction

SELF-CONSCIOUS EMOTIONS

Shame

Guilt

Embarrassment

Pride

Triumph

Interrelations among Shame, Guilt, Embarrassment, Pride, and Hubris

COGNITIVELY COMPLEX EMOTIONS

Envy

Gratitude

Disappointment and Regret

Hope

Schadenfreude

Empathy

Compassion

SUMMARY

READINGS FOR FURTHER STUDY

Crash! Sitting in your car waiting for the red light to turn green, another car hits you from behind. Luckily, the car was traveling at only 10 mph and you are not hurt. Your car is probably not so lucky, so you get out, walk to the back of the car, and take a look. As you look, the other driver exits and starts to approach the scene. This is a critical moment. What is this guy thinking? What is he feeling? What will he do? How will the interaction go? From your point of view, the accident was clearly his fault, but you wonder how the interaction will go nevertheless. Will it be a friendly chat or an aggressive provocation?

Crashing is certainly a significant life event—an emotion-eliciting event. So, emotional expressive signals will be sent. Fortunately, you know what the other driver is feeling and what actions he is most likely to take. You know this because you read his facial, vocal, and postural signals. By doing so you can infer both his emotional state and what he most wants to do (i.e., his action tendencies, as summarized in Table 14.1). Processing this emotion knowledge, your job in the next few seconds will be to prepare yourself for as constructive a face-to-face interaction as is possible.

This third chapter on emotion examines 20 individual emotions. The first section presents the seven basic emotions of fear, anger, disgust, contempt, sadness, joy, and interest. The second section presents the five self-conscious emotions of shame, guilt, embarrassment, pride, and triumph. The third section presents the eight cognitively complex emotions of envy, gratitude, disappointment, regret, hope, schadenfreude, empathy, and compassion.

BASIC EMOTIONS

Fear, anger, disgust, contempt, sadness, joy, and interest are relatively easy emotions to understand, because they are ubiquitous experiences. Basic emotions are an inherent part of everyone's emotional repertoire, regardless of age, gender, culture, or historical time period. These emotions have clear and identifiable antecedents, and they produce reliable downstream behavioral, cognitive, and social effects.

Table 14.1 The Motivational Urge (Action Tendency) Associated with 17 Emotions

| Individual Emotion | Motivational Urge or Action Tendency |
|--------------------|---|
| Fear | Flee; protect oneself. |
| Anger | Overcome obstacles; right an illegitimate wrong. |
| Disgust | Reject; get rid of; get away from. |
| Contempt | Maintain the social hierarchy. |
| Sadness | Repair a loss or failure. |
| Joy | Continue one's goal striving; play; engage in social interaction. |
| Interest | Explore; seek; acquire new information; learn. |
| Pride (Authentic) | Acquire further skill; persist at challenging tasks. |
| Shame | Restore the self; protect the self. |
| Guilt | Make amends. |
| Embarrassment | Appease others; communicate blunder was unintended. |
| Envy (Benign) | Move up; improve one's position. |
| Gratitude | Act prosocially; grow the relationship. |
| Regret | Undo a poor decision or behavior. |
| Hope | Keep engaged in the pursuit of a desired goal. |
| Empathy | Act prosocially; help the other. |
| Compassion | Reduce suffering. |

Fear

Fear arises from a person's interpretation that the situation is dangerous and represents a threat to one's well-being. The most common fear-activating situations are those rooted in the anticipation of physical or psychological harm, a vulnerability to danger, or an expectation that one's coping abilities will not be able to match up to forthcoming circumstances. Physical and psychological threats can come from biological (snakes, spiders) or sociocultural (angry facial expressions, strangers, racial out-group members) dangers, although we are more prepared to fear the former and a bit more flexible in our fear of the latter (Mallan, Lipp, & Cochrane, 2013). That said, slithering snakes seem to have a special capacity to elicit fear in us (Ohman & Mineka, 2003), because no object is more quickly detected by the human brain than is a snake in the grass. A close runner-up, however, is a threatening facial expression (Ohman & Mineka, 2001). What these stimulus situations have in common is that both are rather clear signals of imminent pain, threat, and danger.

The perception that one can do little to cope with an environmental threat or danger is at least as important a source of fear as is any actual characteristic of the threatening situation itself (Bandura, 1983). Fear is therefore mostly about a perceived vulnerability to being overwhelmed by a threat or danger. Because fear can be calmed by coping potential, it says something important about the nature and experience of fear—namely, that it is not necessarily an automatic process. The fact that an appraisal of high coping potential can calm fear means that the cortical brain can take some of the fire (fear) out of the subcortical brain.

Fear motivates protection. It functions as a warning signal that one is vulnerable to a forthcoming physical or psychological harm, one that manifests itself in an impulse to freeze or flee (as in the “flight” part of the fight-or-flight response). The individual trembles, perspires, looks around, and feels nervous tension to protect the self. Protection motivation manifests itself through either escape or withdrawal. Fleeing (escape) puts physical (or psychological) distance between the self and whatever is feared. If fleeing is not possible, fear motivates freezing (withdrawal)—being quiet and still.

On a more positive note, fear can provide the motivational support for learning new coping responses that remove the person from encountering danger in the first place. Few highway drivers in a torrential rainfall, for instance, need to be reminded to pay attention to the slippery road (fear activates coping efforts), and experienced drivers are better at coping with such a danger than are novice drivers (fear facilitates the learning of adaptive responses). Fear therefore warns us of our vulnerability, but it also facilitates learning how to cope.

Anxiety

Anxiety is a close ally of fear (Ohman, 2008). Fear and anxiety are both aversive emotional states that arise from a threat to one's well-being. One key difference is that fear has an identifiable threat whereas anxiety does not. We are afraid of snakes and heights, but we are anxious about the unknown future. A second key difference is that fear motivates a specific course of coping, because we run from the snake and avoid the steep roof. Anxiety, on the other hand, is a state of undirected arousal and tension. This distinction makes it clear that fear is largely a functional emotion and a motivational asset, while anxiety is more of an “on alert” negative emotionality that does not typically advance our coping effectiveness.

Posttraumatic Stress Disorder

A second fear ally is posttraumatic stress disorder (Ohman, 2008). Posttraumatic stress disorder arises from an experience (or experiences) of extreme danger that elicits intense fear (fright, terror)

that has fear-related short-term consequences but also trauma-related long-term consequences. The typical antecedents are living through terrorism, torture, major accidents, or a natural disaster (e.g., a hurricane). In each of these cases, one sees others killed in a context of widespread violence (e.g., bombs exploding, homes destroyed). The object that causes the fright is clear (the trauma), but the person feels anxiety and stress because he or she cannot predict when the fear experience will be reexperienced in the form of vivid flashbacks. Thus, being anxious, the person with a posttraumatic stress disorder finds it difficult to sleep or to concentrate on daily activities. Like anxiety, it is very difficult to turn off the fear aroused by a past trauma because there exists no clear effective coping response (i.e., one cannot go back in time and undo the trauma).

Phobias

A final close ally of fear is the clinical phobia (Ohman, 2008). Although it sometimes seems that the number of potential phobias is limitless, a careful analysis reveals four categories (Arrindell et al., 1991). The first category of common adult phobias is fear about “interpersonal events and situations.” This first category includes fears of criticism, rejection, and interpersonal conflict, especially violent conflict. The second category includes fear about “death, injuries, illnesses, blood, and surgical procedures.” This second category includes fears of bodily injury, illness, and death. The third category includes fears of “animals.” This category includes domestic animals, but it more often involves creepy and crawly animals. The fourth category is “agoraphobic fears.” This category includes getting lost in crowds, entering closed spaces, and being alone. Collectively, all four phobias make evolutionary sense, because social situations can escalate out of control to produce psychological and physical injury, death and illness are self-evident, animals can be predators, and agoraphobic fears stem from being separated from a secure base or from one’s family.

Anger

Anger is a ubiquitous emotion (Averill, 1982). When people describe their most recent emotional experience, anger is the emotion that often comes to mind (Scherer & Tannenbaum, 1986). The core antecedent of anger is the presence of an obstacle to one’s goal pursuit, so anger’s key function is to prepare the person to overcome such obstacles. Said a little differently, anger arises from any interference with our pursuit of a goal we care about, although anger can also arise from interference with minor goals as occurs when stuck in traffic behind a slow-moving vehicle (Stephens & Groeger, 2011). It is also triggered by someone attempting to do us harm, physically or psychologically. In these cases, anger prepares the person to remove the obstacle or to stop the harm. It also includes a wish to hurt the person who is attempting to do us harm. Anger also arises from a betrayal of trust, being rebuffed, receiving unwarranted criticism, suffering a lack of consideration from others, and cumulative annoyances (Fehr et al., 1999). Anger further is caused rather directly by aversive conditions, such as pain (Berkowitz & Harmon-Jones, 2004). Overall, anger arises from restraint, as in the interpretation that one’s plans, goals, or well-being has been interfered with by some outside force (e.g., barriers, obstacles, interruptions). The essence of anger is the belief that the situation is not what it should be; that is, the restraint, interference, or criticism is illegitimate (de Rivera, 1981).

Here is the process of how anger often arises to affect our thoughts and behaviors in everyday experience. Other people sometimes provoke us—they treat us unfairly, criticize us harshly, go out of their way to embarrass us, or argue against us. Our emotional makeup, however, generates vigorous motivation to defend ourselves against such provocations and confrontations. That is, provocations reliably elicit an anger response (Bettencourt Talley, Benjamin, & Valentine, 2006), and the anger emotion motivationally prepares us to right the wrong.

Anger is the most passionate emotion. The angry person becomes stronger and more energized (as in the “fight” part of the fight-or-flight response). Anger arises when people want to keep control

of something that is theirs (Levenson, 2011). It motivates self-defense, and it regulates social interactions to defend the self and whatever belongs to the self. One way anger produces its functional effects is by increasing the person's sense of control (Lerner & Keltner, 2001). Thus, when people do act out their anger, research shows a surprising success rate (Tafrate, Kassinove, & Dundin, 2002). People (e.g., politicians) who express anger generally get more respect and status following a wrong than do people who express sadness or guilt (Tiedens & Linton, 2001). The person in an auto accident (recall the chapter's opening vignette) who expresses anger, compared to a "be pleasant" expression, tends to get what they want (Ford & Tamir, 2012). This is because anger makes people more attuned to the injustices of what other people do (Keltner, Ellsworth, & Edwards, 1993), and because it often clarifies relationship problems, energizes political agendas, and spurs a culture to change for the better, as occurred with the civil rights movement, the woman's suffrage movement, and Americans' national response to the September 11, 2001, terrorist attacks (Tavris, 1989).

Anger is not only the most passionate emotion, it is also the most dangerous, because its purpose is to destroy barriers in the environment. About one-half of anger episodes include yelling or screaming, and about 10 percent of anger episodes lead to aggression (Tafrate Kassinove, & Dundin, 2002). When anger prompts aggression, it produces needless destruction and injury, as when we shove a rival, curse at a teammate, or thoughtlessly damage property. For these reasons, the key downside of anger is that it repels others (Marsh, Ambady, & Kleck, 2005). This seemingly contradictory state—anger repels others, yet it is also an effective way of coping—means that how we regulate anger is very important (Eisenberg et al., 1994). People who can effectively regulate their anger to mobilize their bodily activation (Denson, Grisham, & Moulds, 2011) to produce constructive rather than destructive responses inside a provocative encounter function better socially than do those who do not show this same self-regulatory skill (Eisenberg et al., 1997).

Disgust

Disgust is the oldest emotion. Its original, primitive function was to prevent the oral incorporation of offensive substances (Rozin & Fallon, 1987). Its purpose is rejection (Rozin, Haidt, & McCauley, 2008).

Disgust is healthy when it produces a strong repulsion urge against foods that smell or look spoiled or are infested with bugs, and that felt emotion needs to be strong enough to fully counter-urge hunger. The benefit of disgust is much easier to see if you mentally imagine what living conditions were like thousands of years ago (before soap, before plumbing, before shelter, before medicine). Disgust involves feeling repulsed by and motivated to get rid of or get away from a contaminated, deteriorated, or spoiled object. Just what that object is depends on personal development and on one's culture (Rozin, Haidt, & McCauley, 1993; Rozin, Lowery, & Ebert, 1994).

Nine domains of disgust antecedents have been validated: food, bodily waste products, animals, sexual behaviors, contact with death or corpses, violations of the exterior of the body (gore, deformity), poor hygiene, contact with unsavory people, and moral offenses (Haidt, McCauley, & Rozin, 1994). What this list of disgust elicitors suggests is that the oldest emotion began as a repulsion to contaminated foods but developed gradually into a general rejection system that protects the self from a wide range of potential contaminants (Rozin Haidt, & McCauley, 2008). This developmental trajectory applies both to the history of the species and to the individual. In infancy, for instance, the cause of disgust is limited to bitter or sour tastes. In childhood, disgust reactions expand to include psychologically acquired revulsions and generally any object deemed to be offensive (Rozin & Fallon, 1987). By adulthood, disgust arises from any object deemed to be contaminated in some way, including bodily contaminations (germs, poor hygiene, illness), interpersonal contaminations (physical contact with undesirable people, sleeping in a hotel bed on which the linens have not been changed), and moral contaminations (child abuse, incest, infidelity) (Rozin Lowery, & Ebert, 1994). Disgust elicitors can also easily contaminate other objects. Seeing a dead cockroach touching your

food will trigger disgust and pretty much contaminate the whole plate of food, emotionally speaking (Rozin, Millman, & Nemeroff, 1986).

At the core of disgust is the identification of substances that are deteriorated or contaminated in some way, but that core can be expanded by socialization experiences. Physical contamination represents the prototype of disgust elicitors, but contamination extends to the social and moral domains. Acts of social deviance can elicit disgust (Rozin, Haidt, & Fincher, 2009). Unfair treatment is also a reliable disgust elicitor (Chapman, Kim, Susskind, & Anderson, 2009). Ideas and values can become contaminated and produce moral disgust (Haidt, 2007). A good example over the last decade has been to think of smoking not as a “personal preference” but as a “disgusting moral value” (Rozin & Singh, 1999).

With moral contaminations, people recruit the disgust emotion and pair it with an object or event so to remove any temptation to interact further with that object or event (a process called “moralization”; Rozin, 1999). This moralization process can also explain a vegetarian’s lack of desire to eat meat (Rozin, Markwith, & Stoess, 1997). In this sense, disgust becomes a moral emotion (Rozin Haidt, & McCauley, 2008).

Individuals high in disgust sensitivity hold relatively harsh moral judgments, including conservative attitudes about sexuality and gays—to the point of homophobia (Olatunji, 2008; Inbar, Pizarro, Knobe, & Bloom, 2009). It is not so much that people high in disgust sensitivity are inherently homophobic as it is that they tend to be morally hypervigilant and hence focused rather strongly on avoiding contact with what they believe to be potential moral offenders (Jones & Fitness, 2008).

Because disgust is phenomenologically aversive, it paradoxically plays a positive motivational role in our lives. Feeling disgusted, we wish to avoid contaminated objects, and we learn the coping behaviors needed to prevent encountering (or creating) conditions that produce disgust. Sometimes, of course, it is too late, as we bite into the apple to only later see the worm within. In this case, rejection gets you only so far. So, the second function of disgust is to generate a proactive desire to cleanse (Zhong & Liljenquist, 2006). Therefore, because people wish to avoid putting themselves into disgusting situations, they change personal habits and attributes, discard waste and sanitize their surroundings, and reappraise their thoughts and values. They wash the dishes, brush their teeth, take showers, and exercise to avoid an out-of-shape or “disgusting” body.

Contempt

Contempt arises from a sense of being morally superior to another person. It involves a negative evaluation of the other person’s behavior, although it typically goes deeper to mean that the other person is judged to be unworthy in some way. Contempt is therefore an inherently social emotion, because it occurs only during social interaction.

Contempt has a strong experiential overlap with disgust, but contempt is a unique emotion in that it has its own distinct antecedents (a sense of moral superiority to another) and its own unique cross-cultural facial expression (Ekman & Friesen, 1986; Ekman & Heider, 1988; Matsumoto, 1992; Matsumoto & Ekman, 2004). A contempt facial expression shows a unilateral lip raise and tightening. Such an expression occurs in a situation such as hearing a person brag about an accomplishment for which he was not responsible (i.e., taking credit for something that he did not actually do; Matsumoto & Ekman, 2004).

The function of contempt is to maintain the social hierarchy. A contempt expression signals one’s dominance and superiority over the other. Such a signal can, however, lead to very destructive social consequences. When it occurs in the context of marriage, it is considered toxic to the relationship, especially when expressed by the husband, and it predicts the future dissolution of the marriage with rather high accuracy (Gottman & Silver, 1999). Some relationships simply cannot

survive experiences of contempt, but this simply shows the potency of this emotion to enforce the social hierarchy (e.g., “I am better than you” or “You are inferior to me”).

Sadness

Sadness (or distress) is the most negative, aversive emotion. Sadness arises principally from experiences of separation or failure, although it is particularly closely related to an experience of permanent loss. To feel sad, the loss needs to involve a close attachment. Separation—the loss of a loved one through death, divorce, circumstances (e.g., travel), or argument—is distressing. We also experience separation from a place (hometown) and from a valued job, position, or status. In loss-induced sadness, there is an acute feeling of resignation. Failure also leads to sadness, as in failing an examination, losing a contest, or being rejected from a group’s membership. Even failure outside of one’s volitional control can cause distress, as in war, illness, accidents, and economic depression (Izard, 1991).

Sadness turns our attention inward and promotes personal reflection. Bodily arousal decreases substantially, and this deactivation state facilitates reflection and taking the time to take stock of our life plans and goals to accommodate that which has been lost (Bonanno & Keltner, 1997; Welling, 2003). But sadness also occurs with temporary and with partial loss (not just with permanent loss), and in these cases, sadness motivates the person to take the action necessary to restore the environment to its state before the distressing situation. Following separation, the rejected lover apologizes, sends flowers, or telephones in an effort to repair the broken relationship. Following failure, a performer practices to restore confidence and to prevent the recurrence of a similar failure. That is, because we feel sad, we are more likely to apologize and to offer reparations. Unfortunately, many separations and failures cannot be restored. Under hopeless conditions, the person behaves not in an active, vigorous way but in an inactive, lethargic way that essentially leads to withdrawal.

One beneficial aspect of sadness is that it indirectly facilitates the cohesiveness of social groups (Averill, 1968). Because separation causes sadness and because sadness is such an uncomfortable emotion, its anticipation motivates people to stay cohesive with their loved ones (Averill, 1979). If people did not miss others so much, then they would be less motivated to go out of their way to maintain social cohesion. Similarly, if the student or athlete did not anticipate the possibility of suffering failure-induced distress, she would be less motivated to prepare and practice. So, while sadness feels miserable, it can motivate and maintain productive behaviors.

Depression

Sadness can slip into depression (Bonanno, Goorin, & Coifman, 2008). Sadness has its benefits, because it can motivate reparative behavior, and it can give off expressive signals that bring sympathy, caring, and helping from others (as depicted in the Pixar movie *Inside Out*). Depression, however, has few benefits and gives off expressive signals that push people away (Coyne, 1976a).

The key trigger that slips sadness toward depression appears to be rumination. When rumination is piled on top of a sadness from a permanent loss, the result is often depression (Nolen-Hoeksema, Wisco, & Lyubomirsky, 2008; Spasojevic & Alloy, 2001). Rumination accompanies sadness when the person experiences emotion overproduction—that is, when the person simultaneously feels sad but also angry, afraid, ashamed, and discouraged (Hervas & Vazquez, 2011). Anger adds irritation with the self, discouragement adds disappointment with the self, and when these self-derogating thoughts and feelings are added onto of sadness, then the resulting emotional overproduction leads to rumination and to depression vulnerability. Unlike acute sadness that can promote reflection and reparative coping, rumination-based depression impairs problem-solving, distracts attention, stimulates negative thinking, erodes social support, and replaces reparative coping behaviors with self-harm and destructive bingeing behaviors (Nolen-Hoeksema Wisco, & Lyubomirsky, 2008).

Emotional Preparation for Threat and Harm

The themes that organize the otherwise diverse emotions of fear, anger, disgust, and sadness are threat and harm. When threatening and potentially harmful events are anticipated, we feel fear. Fear motivates fleeing, escaping, and avoiding. During the struggle to fight off or to push away the threatening event, we feel anger and disgust. Anger motivates fighting and vigorous counterdefense, while disgust motivates rejection of the object or event. Once the harm has materialized, we feel sadness. Sadness brings resignation. Hence, fear, anger, disgust, and sadness work collectively to endow the individual with an emotion system that provides effective emotional preparation to cope with all aspects of threat and harm, as summarized graphically in Figure 14.1.

Joy

The events that bring joy include desirable outcomes—success at a task, personal achievement, progress toward a goal, getting what we want, gaining respect, receiving love or affection, receiving a pleasant surprise, or experiencing pleasurable sensations (Ekman & Friesen, 1975; Izard, 1991; Shaver Schwartz, Kirson, & O'Connor, 1987). Joy is the emotional evidence that things are going well (e.g., success, achievement, progress, respect, love). The causes of joy—desirable outcomes related to personal success and interpersonal relatedness—are essentially the opposite of the causes of sadness (failure, separation/loss). How joy affects us also seems to be the opposite of how sadness affects us. When sad, we feel lethargic, withdrawn, and turn inward; when joyous, we feel enthusiastic, outgoing, and expand outward. When sad, we are often pessimistic; when joyous, we turn optimistic.

The function of joy is threefold. First, joy facilitates our willingness to engage in social activities. Smiles of joy facilitate social interaction (Haviland & Lelwica, 1987), and if the smiles keep coming, they help relationships form and strengthen over time (Langsdorff, Izard, Rayias, & Hembree, 1983). Few experiences are as potent and as rewarding as are the smile and the interpersonal inclusion it facilitates. Joy is therefore a social glue that bonds relationships, such as infant and mother, lovers, coworkers, and teammates.

Second, joy has a “soothing function” (Fredrickson Mancuso, Branigan, & Tugade, 2000; Levenson, 1999). It is the positive feeling that makes life pleasant and balances experiences of frustration, disappointment, and general negative affect. Joy can undo life’s stress and negative emotionality. Job stress predicts burnout, for instance, but joy at work counters stress to effectively prevent burnout from occurring (Gloria, Faulk, & Steinhardt, 2013). Joy also has a way of undoing the distressing effects of aversive emotions, as when parents sing and make funny faces to soothe distressed infants and when lovers show affection to soothe away an otherwise conflictual exchange (Carstensen, Gottman, & Levenson, 1995). Hence, the second function of joy is to preserve psychological well-being, even as distressing events keep coming our way, and this is true even for people who are dealing with suicidal thoughts (Joiner Pettit, Perez, & Burns, 2001).

| | BEFORE | DURING | | AFTER |
|-----------------------|---|---------------------------------|--|----------------------------------|
| | Encountering a Threat; Anticipating a Harm | Coping Against A Threat or Harm | | Suffering from A Harm or Loss |
| Emotion | Fear | Anger | Disgust | Sadness |
| Motivated Behavior | Fleeing, Escaping, Avoiding | Fighting | Rejecting, Pushing Away, Getting Rid of | Resignation |

Figure 14.1 Emotional Repertoire to Cope with All Aspects of Threat and Harm

Third, joy creates the urge to play and to be creative. Unlike negative emotions that narrow attention onto the immediate stimulus at hand, joy has the opposite effect of broadening our attention, thoughts, and behaviors (Fredrickson, 1998; Fredrickson & Branigan, 2005). During joyful play, we jump around aimlessly, do unpredictable things, and open up in creative ways. Such activity tends to build our social resources (we make friends) and our intellectual resources (we gain new knowledge and greater intellectual complexity). Because joy broadens attention, cognition, and behavior and because joy builds our social and intellectual resources, it helps transform people into more creative, knowledgeable, resilient, healthy, and socially integrated individuals (Lyubomirsky, King, & Diener, 2005).

Joy is also a family of positive emotions. Some specific shades of joy include amusement (a positive emotional response to something found to be funny), wonder (a response to something that is both incredible and incomprehensible), pride (a response to success at a difficult task), contentment (sitting back and savoring a positive state of affairs), perhaps love (Fredrickson, 2013), and even *schadenfreude* (felt joy when an enemy suffers a setback).

Interest

Interest is the most prevalent emotion in day-to-day functioning (Izard, 1991). Some level of interest is ever-present. Because this is so, increases and decreases in interest usually involve a shifting of interest from one event, thought, or action to another. So, interest is not so much activated as it is redirected, although its magnitude certainly rises and falls from moment to moment in response to changes in the environment (Mouratidis, Vansteenkiste, Sideris, & Lens, 2011). What grabs interest is the presence of environmental novelty—stimulus change, novelty, uncertainty, complexity, puzzles and curiosities, challenges, and discoveries (Berlyne, 1966; Izard, 1991; Silvia, 2006) and any opportunity to gain new information, develop greater understanding, and learn (Izard, 2007; Silvia, 2008) and also those that involve our needs or well-being (Deci, 1992b). What most people find interesting are those things they appraise as novel-complex, although people additionally need to feel competent that they can eventually make sense of the newness, novelty, and complexity that stand before them, as with modern art or a class lecture (Silvia, 2005).

Interest creates the urge to explore, investigate, seek, manipulate, and extract information from the objects that surround us. It motivates exploration, and it is in these acts of turning things around, upside down, over, and about that we gain the information we seek. Interest creates a vitalizing type of motivation that supports eager interaction with environmental opportunities to explore and learn (Mouratidis, Vansteenkiste, Sideridis, & Lens, 2011). The benefits of exploring, taking in new information, and developing greater understanding is that one expands the self in the process. A person's interest in an activity also determines how much attention is directed to that activity and how well that person processes, comprehends, and remembers relevant information (Hidi, 1990; Renninger, Hidi, & Krapp, 1992; Renninger & Wozniak, 1985; Schiefele, 1991; Shirey & Reynolds, 1988). Interest therefore enhances learning (Alexander, Kulikowich, & Jetton, 1994). It is difficult to learn a foreign language, allocate time to read a book, or engage in most any learning activity without emotional support from interest. As a case in point, when interested, students persist longer at learning activities, spend more time studying, read more deeply, remember more of what they read, and make better grades (Silvia, 2006).

Interest is important for two key reasons. First, it motivates environmental engagement, as reviewed in the previous paragraph. In doing so, interest promotes learning, skill development, knowledge acquisition, and achievement (Schiefele, 1991; Schraw & Lehman, 2001; Silvia, 2006). Second, interest replenishes personal resources (Thoman, Smith, & Silvia, 2011). Exploring and learning require a great deal of engagement and reengagement, and the expenditure of all this effort and concentration can be tiring. Prolonged environmental engagement can exhaust people. But interest-motivated engagement is a strangely different kind of engagement. When people engage in a

| | BEFORE | AFTER |
|--------------------|--|--|
| | Encountering a Benefit that Involves a Motive, Need, or One's Well-being | Attaining the Benefit that Satisfies a Motive, Need, or One's Well-being |
| Emotion | Interest | Joy (Enjoyment) |
| Motivated Behavior | Exploration, Task Engagement | Persistence, Task Reengagement |

Figure 14.2 Emotional Repertoire to Cope with All Aspects of Motive Involvement and Satisfaction

learning task without the motivational support of interest, over time they typically experience a type of motivational and cognitive exhaustion that makes it harder and harder to persist and to continue to concentrate. However, when people engage in the same learning task with the motivational support of interest, they often experience a type of motivational and cognitive vitality that energizes further engagement (Thoman Smith, & Silvia, 2011). That is, interest-fueled engagement counteracts exhaustion by replenishing—rather than by draining—motivational (e.g., persistence) and cognitive (e.g., concentration) resources.

Emotional Preparation for Motive Involvement and Satisfaction

The themes that organize the positive emotions of interest and joy are motive involvement and satisfaction. When a beneficial event related to our needs and well-being is anticipated, we feel interest. When the beneficial event materializes into motive satisfaction, we feel joy (or enjoyment). Interest motivates the exploratory behavior and task engagement necessary for promoting contact with the potentially motive-satisfying event. Interest also prolongs task engagement so we can put ourselves in a position to experience motive satisfaction. Joy adds to and somewhat replaces interest once motive satisfaction occurs (Izard, 1991). Joy then promotes ongoing task persistence and subsequent reengagement behaviors with the motive-satisfying event. Together, interest and joy provide the emotional support to be fully involved in an activity to the point that we are emotionally prepared to experience motive involvement and satisfaction (Reeve, 1989), as summarized graphically in Figure 14.2.

SELF-CONSCIOUS EMOTIONS

Shame, guilt, embarrassment, and pride do not arise in response to clear and specific antecedents in the same way that fear, anger, and joy do. Rather, events occur that have implications for the evaluation of the self, and it is this process of evaluating the worth of the self that gives rise to the cluster of self-conscious emotions. That is, rather than tracing the origins of these four emotions to a particular “significant life event,” these emotions arise out of cognitive processes that revolve around the evaluation of the self (Lewis, 2008).

Shame

Shame is an overwhelmingly powerful emotion that is associated with feelings of inferiority, a sense of worthlessness, and a damaged self-image (Tangney & Dearing, 2002). It arises after the violation of standards associated with morality and competent functioning. For instance, behaving inappropriately while drunk, laughing at a joke during a funeral, or hurting others are moral violations, while failing an examination or performing very poorly in a sport or musical performance are violations of competent functioning (de Hooze, Zeelenberg, & Breugelmans, 2010). Failing at an easy task is particularly likely to induce shame (Chao, Cheng, & Chiou, 2011). Such moral and performance failures signal that something is wrong with the self. Shame is the emotional reaction to

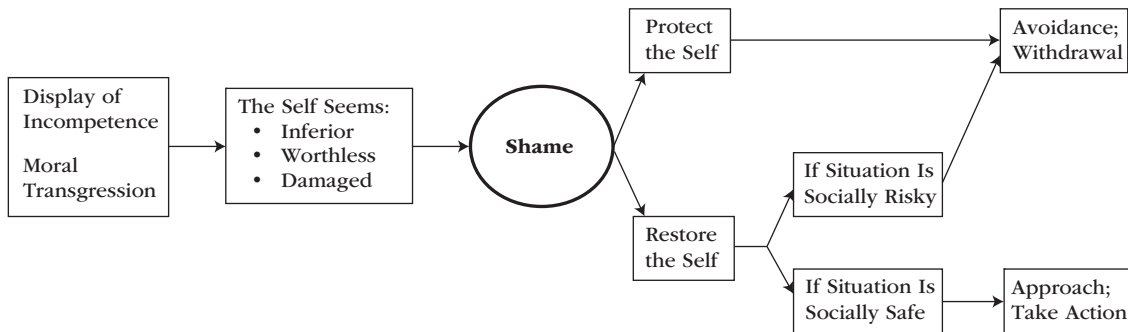


Figure 14.3 Dual Motivational Model of Shame

our belief that we are inadequate, worthless, and inferior compared to others (Tangney, Wagner, & Gramzow, 1992).

This message makes shame an “ugly” emotion, one that is accompanied by intense pain, confusion in thought, an inability to speak, strong withdrawal tendencies, rumination, and essentially a global (emotional) attack on the self (Keltner & Buswell, 1996; Orth, Berking, & Burkhardt, 2006; Tangney, 1991, 1999). In this sense, the function of shame is that of a moral barometer to provide immediate and salient feedback about how well or how poorly one’s self stands up to moral and performance-based standards of acceptability.

The motivational urge (or goal or action tendency) aroused by shame is to hide/withdraw (Lindsay & Hartz, 1984; Tangney, Stuewig, & Mashek, 2007). Given this urge to hide and withdraw, shame generates two motives—one to protect the self and another to restore the damaged self (de Hooze, Zeelenberg, & Breugelmans, 2010, 2011). A model of how these dual motives generate the behavior necessary to deal with a damaged positive self-view appears in Figure 14.3. Performance-based displays of incompetence and moral transgressions create the impression of an inferior, worthless, or damaged self, and it is this threatened positive self-view that gives rise to shame. Shame then generates the two motives to protect the self and to restore the self. To protect the self, the self withdraws, hides, and avoids taking action that may cause further damage to the self. This idea is to avoid making a bad evaluation of the self even worse. The person who feels ashamed prefers to work alone, and he or she may use this time alone to initiate private attempts to restore the self (Chao Cheng, & Chiou, 2011).

To restore the self publicly, the self seeks out an opportunity for a second chance to demonstrate that the self is actually morally good and competent. As shown in Figure 14.3, it is sometimes impossible, too difficult, or too risky (too punishing) to take the action necessary to restore the threatened self. If it is impossible to make amends (e.g., the behavior cannot be undone or there are no more opportunities for a second chance), then the person will withdraw, hide, and avoid taking action that may cause further damage to the self. But if restoration of the self is possible, then the shame-generated motive to restore the self leads to behavior designed to make amends and restore the positive self-view.

In empirical tests of the dual motive model of shame, researchers find that the motive to restore the self is stronger than is the motive to protect the self (de Hooze Zeelenberg, & Breugelmans, 2010). For instance, after a performance failure or after enacting socially inappropriate behavior, people are more likely to feel a strong urge to repair their self-image and to make amends (i.e., try the task a second time) but only a moderate urge to protect the self and not make the self-presentation worse than it already is. This is because shame primarily generates a motive to regain the positive image that one has (hopefully temporarily) lost. Despite the stronger motive to restore the self, people who experience shame are nevertheless still more likely to withdraw from the situation, avoid taking a second chance, and hide. This is because it is so often impossible, too difficult, or too socially

risky to take the action one needs to try to restore the self. Under these conditions, the strength of the motive to restore the self declines, while the strength of the motive to protect the self rises. As a result, behavioral avoidance and withdrawal often follow the experience of shame, because the person decides it is best to just prevent further damage to one's self-image. So, what the shamed self needs to maintain the motivation to restore its worth is a socially safe interpersonal environment (e.g., social support, empathy and understanding, and invitation and an openness to give the person a second chance).

The model in Figure 14.3 helps deepen our understanding of the specific emotion of shame, but it goes further in that it helps deepen our understanding of emotion more generally. If any emotion is qualified to be labeled as a "bad" emotion, it is "ugly" shame. Yet its functional purpose is to motivate behaviors to restore a positive view of the self that has just been threatened or challenge by one's own moral violation or display of incompetence (de Hooze Zeelenberg, & Breugelmans, 2010). If even shame has such a beneficial function, then the "there is no such thing as a bad emotion" assertion makes a bit more sense.

Guilt

While similar to shame in many respects, guilt lacks the negative intensity of shame. It does not involve an ugly attack on the self. Guilt arises after the person evaluates his behavior (not himself) as a failure. The focus during guilt is on the self's behaviors and actions, rather than on the self's worth per se.

Guilt signals that one's behavior has caused harm, loss, or distress to a relationship partner (Tangney, Miller, Flicker, & Barlow, 1996; Zeelenberg & Breugelmans, 2008). Guilt is an emotional signal that one's behavior has harmed another, and one therefore needs to make amends to make things right again (e.g., by apologizing and by repairing and undoing the harm; Iyer, Leach, & Crosby, 2003; McGarthy et al., 2005). For instance, you let me borrow your laptop computer, and I then spilled coffee all over the keyboard. Now I feel guilty about what I did, and I therefore apologize and clean up the laptop as well as possible and I might also perhaps offer to buy you a new laptop. If I did not feel guilty about the damage I caused to you and your laptop (e.g., "Oh, that happens. It is just normal wear and tear, right?"), however, then I would not be motivated to apologize, clean, and replace the damaged laptop with a new one. This example shows that guilt serves as an emotional marker of a strained social bond that is in need of repair.

Guilt does not turn the person toward prosocial behavior in general (e.g., sharing one's resources with everybody), but, instead, it turns the person toward prosocial behavior in specific—toward the person harmed and toward enacting the very targeted behaviors that are capable of remediating the specific harm done (Cryder Springer, & Morewedge, 2002). Similarly, guilt does not produce a generalized confusion in thought, an inability to speak, strong withdrawal tendencies, rumination, and a global attack on the self (as with shame). Instead, it produces the thought necessary to focus on the hurt or distress caused to a relationship partner (Tangney Miller, Flicker, & Barlow, 1996; Zeelenberg & Breugelmans, 2008). The person who feels guilty focuses on the worth of the behavior and on what needs to be done to undo the hurtful consequences of the behavior.

Guilt-generated behaviors often involve making amends, apologizing, confessing, and basically doing whatever needs to be done to undo the distressing consequences of the behavior. Guilt feels bad, and it often gets a bad rap in everyday experience, but it is a moral emotion that motives greater cooperation with others (de Hooze, Zeelenberg, & Breugelmans, 2007). In this sense, the function of guilt is that of a moral barometer to provide immediate and salient feedback about the worth and acceptability of one's behavior. Guilt means that the behavior needs to be reconsidered and changed.

Each time we feel guilty (after we said or did something—or forgot to do something—that caused harm to others), we suddenly gain a more positive attitude toward reparatory behavior. We give attention and thought to what we can do to make amends. We suddenly have a new goal to make

amends, apologizing becomes a desirable and volitional behavior, and our behavior takes a prosocial turn as we desire to cooperate, apologize, and basically make amends (Graton & Ric, 2017).

Guilt often goes hand in hand with taking the perspective of others and with empathy. To evaluate the consequences of the “bad behavior,” people engage in both perspective taking and empathic understanding. When combined with perspective taking and empathy, guilt often leads to an effective course of action, such as apologizing or making amends.

Guilt is also a “moral emotion” (Tangney, Stuewig, & Mashek, 2007). As a moral emotion, guilt arises from a violation of an internalized moral standard committed by the self or by one’s group (Branscombe, Slugowski, & Kappen, 2004). One’s harm-causing behavior is viewed as “bad” (a moral judgment), and the one harmed is seen as a victim. Thus, guilt is also caused by a perceived violation of one’s moral standards, and it is removed by taking action to restore one’s morality. It turns out that people have many ways to restore their sense of morality, including ways that are obvious—doing “good” behaviors that undo, repair, and compensate for the harm done—and ways that are not so obvious, such as expressing moral outrage against some other harm doer (e.g., “I’m so angry that the multinational oil companies are destroying our environment!”; Rothschild & Keefer, 2017). The thinking is that if a person expresses moral outrage, then he or she must be a moral person.

Embarrassment

Embarrassment signals that “something is amiss” and that some aspect of the self needs to be hidden or at least carefully self-monitored. It occurs after a social blunder that is committed in front of an audience of others, a blunder that suggests that the actor may possess some personal deficiency, as occurs when forgetting someone’s name (a mental lapse), tripping or stumbling (a physical pratfall), or suffering some bodily dysfunction such as uncontrollably spitting out one’s beverage through the nose while laughing uncontrollably (a lack of reasonable control over one’s physical functions). But embarrassment is not caused by the social blunder *per se* but, rather, by the anticipation of a negative evaluation by others (i.e., a cognitive appraisal). Hence, we become embarrassed when we perceive that the social image we wish to project to others has been put at risk by our social blunder and others are beginning to form a negative impression of us (Harris, 2006).

Somewhat curiously, embarrassment also occurs even in positive social situations (e.g., others are congratulating us). Thus, it is probably more accurate to say that embarrassment arises when we anticipate a disruption of smooth social interaction at a time when there is no clear guideline as to what socially appropriate behavior would be in that situation. So, the embarrassed person being congratulated, handed an award, being sung to, or just being called on during class just stands there with a goofy grin on her face, not knowing what to do next. Actually, what the person is doing for several seconds is suppressing her emotionality (as evidenced by increase heart rate, increased blood pressure; Harris, 2001), rather than acting in a socially smooth fashion.

The essential functions of embarrassment are to appease the audience, take action to repair the negative self-impression, and communicate implicitly that the social blunder will not occur again. To appease the audience, the embarrassed person averts her eyes, blushes, acts submissively, apologizes, promises not to do it again, and engages in self-grooming. Appeasing the audience is essential behavior because such gestures signal to the audience that the social blunder was an unintentional act, an accident that will not be repeated. So, when embarrassed, people engage in a flurry of appeasement behavior (Keltner, 1995; Keltner & Buswell, 1997), and they look down, gaze their eyes to the left, attempt to control a smile (show the goofy grin), and touch the face or hair (Keltner, 1995). This inexplicable urge to touch the face, hair, or scalp is a curious act, but you might notice it yourself after committing some social blunder (e.g., accidentally cutting off another driver on the highway).

Interestingly, a display of embarrassment is often successful, as those who show embarrassment (i.e., those who blush; Dijk, de Jong, & Peters, 2009) and those who go out of their way to appease the audience (Semin & Manstead, 1982) are rated more positively than those who enact

the same social blunder but who do not show embarrassment. Thus, embarrassment works. It has remedial value. The functional conclusion is that it is unwise to hide one's embarrassment after committing a social blunder (Dijk Koenig, Ketelaar & De Jong, 2011), which might be a good thing to remember the next time you trip over a cord, spill coffee on someone, knock over a stack of boxes at the supermarket, drive your bicycle into the bushes, or greet a stranger enthusiastically.

Pride

Pride is a self-related emotion. Feelings of pride in one's achievement, success, and positive functioning maintain and boost self-esteem and alert the self and others that one is worthy of acceptance and status, much in the same way that shame attacks self-esteem and alerts self and others that one is unworthy of acceptance or status.

People express pride with a slight (not a large) smile, tilting the head slightly back, expanding the chest, and raising their arms upward in the air (Tracy & Matsumoto, 2008; Tracy & Robins, 2004). Such an "expansive" posture makes one appear larger and therefore attracts attention to the self. It is also worth noting that this pride expression is readily recognized by children (Tracy, Robins, & Lagattuta, 2005) and is naturally expressed by those who are blind (and hence could not have easily learned the expression through socialization; Tracy & Matsumoto, 2008).

Pride is a complex emotion that has a dual nature—it has two facets. On the one hand, pride in one's success promotes achievement behavior, an authentic and heartfelt self-esteem, and prosocial behaviors such as volunteering and altruism (Tracy & Robins, 2007; Wubben, De Cremer, & van Dijk, 2012). On the other hand, pride has a dark side (i.e., Dante referred to it as one of the seven deadly sins). Pride can be associated with narcissism and contribute to aggression, relationship conflict, and antisocial behaviors such as manipulating others (Campbell, 1999; Tracy & Robins, 2007; Wubben et al., 2012). This dual view of pride as confidence, success, and achievement versus arrogance, conceit, and self-aggrandizement had lead researchers to refer to the former as "authentic pride" and to the latter as "hubris pride" (Tracy & Robins, 2007).

Authentic pride revolves around subjective experiences of accomplishing, achieving, succeeding, feeling confident, and being productive and fulfilled, and it is rooted in internal, unstable, and controllable attributions (e.g., "I won because I practiced hard to develop my skills."); hubristic pride revolves around subjective experiences of being snobbish, stuck up, conceited, arrogant, egotistical, and smug, and it is rooted in internal, stable, and uncontrollable attributions (e.g., "I won because I am the greatest of all time"; Tracy & Robins, 2007). Interestingly, authentic pride and hubristic pride do not have different antecedents—both are caused by success and accomplishment. Where they differ is in how that success is appraised and attributed.

The two facets of pride also differ in their paths to prosocial versus antisocial behavior. Authentic pride is prosocial, because it plays a clear motivational role in the acquisition of skills and persevering on difficult tasks (Williams & DeSteno, 2008). Because of this motivational effect, authentic pride allows people to develop the proficiency, self-efficacy, conscientiousness, and leadership that allow them to help others, such as cooperating rather than acting selfishly (Williams & DeSenno, 2009; Wubben De Cremer, & van Dijk, 2012). Hubristic pride is antisocial, because it contributes to a narcissistic quest for status and domination and to uncaring and exploitive behaviors. Because of this, hubristic pride tends people toward abusing others, such as acting selfishly, aggressively, and with hostility and exploitation rather than with care (Campbell, Bush, Brunell, & Shelton, 2005; Tracy, Cheng, Robins, & Trzesniewski, 2009; Wubben De Cremer, & van Dijk, 2012).

Triumph

Triumph is the emotional reaction that follows victory in a competitive situation (Hwang & Matsumoto, 2014; Matsumoto & Hwang, 2012). The triumphant victor displays both (1) self-expressive behavior—arms raised above the shoulders and away from the body, chest and torso

| | WELL-DONE | POORLY-DONE |
|----------------------------------|--|---|
| Evaluating a Specific Behavior | Authentic Pride (Feeling Productive, Fulfilled) | Guilt (Undo a Hurtful Action) Embarrassment (Assure an Audience that the Behavior was an Accident) |
| Evaluating the Worth of the Self | Hubristic Pride (Dominate Others) | Shame (Restore the Damaged Self) |

Figure 14.4 Emotional Range of the Self-Conscious Emotion

pushed out while leaning back, mouth open, head tilt back or up, a smile, and a thumbs-up gesture and (2) social dominance—making a fist, thrusting a fist pump, and shouting, as found with competitive athletes who win an intense competition (Matsumoto & Hwang, 2014). These behaviors signal victory, dominance, and social power over the defeated and, in doing so, inform an audience of others about one's achieved victory.

A triumph display communicates that one is socially dominant and that others should avoid future challenges and instead take their relatively submissive place within the social hierarchy. Dominance is different from pride. Pride reflects a successful evaluation of a specific action or body of work. One has worked hard on a project and, upon the achievement of the sought-after goal, feels pride and a sense of personal satisfaction of a job well done. Triumph signals social dominance that has an air of aggression, tension release, and a taunting of opponents that seeks to put them in their place. Triumph is closer to hubristic pride than it is to authentic pride.

Interrelations among Shame, Guilt, Embarrassment, Pride, and Hubris

Shame, guilt, and embarrassment are negative self-conscious emotions that have different antecedents and consequences (Tangney & Dearing, 2002), while pride and hubris are positive self-conscious emotions that have different antecedents and consequences (Tracy & Robins, 2007). The themes that integrate these five emotions are whether it is the self or just a particular behavior that is being evaluated and whether that evaluation is positive or negative. As summarized in Figure 14.4, the positive evaluation of a specific behavior leads to authentic pride and a feeling of being productive and fulfilled. The negative evaluation of a specific behavior leads to guilt and embarrassment and to a motivation to undo the harm caused. The positive evaluation of the global self leads to hubris and the motivation to dominate or intimate others. And, the negative evaluation of the global self leads to shame and the motivation to restore the damaged self.

COGNITIVELY COMPLEX EMOTIONS

Envy

Envy is a painful emotion caused by the good fortune of others (van de Ven, Zeelenberg, & Pieters, 2009). It is an unpleasant emotional experience that arises when one person perceives that another has an advantage over him or her while also desiring what the other has (Parrott & Smith, 1993). That perceived advantage may be that the envied other possesses a special quality (a better job), achievement (won a prestigious award), or possession (the latest sports car). It is a highly social emotion, as it is embedded in social comparison of the self with what others have (Smith & Kim, 2007).

Envy generates the goal to level the difference between the self and the envied other, a goal that may be accomplished either by moving oneself up to the level of the other or by pulling the other back down to one's own level.

Just as pride has two facets—one constructive and one destructive, so does envy. Benign envy generates a moving-up motivation, and it is aimed at improving one's position. The positive facet of (benign) envy leads to constructive behavior aimed at moving up to the same superior position currently held by the envied person. It carries with it the seeds of motivation to improve oneself (Cohen-Charash, 2009; van de Ven Zeelenberg, & Pieters, 2009). Malicious envy generates a pulling-down motivation, although it too is aimed at improving one's position. The negative facet of (malicious) envy leads to destructive behavior aimed at pulling down the envied person. It does not carry with it any seed of improvement motivation.

The key difference between the two types of envy is the appraisal of deservedness (van de Ven, Zeelenberg, & Pieters, 2012). With benign envy, the person believes that the other person deserves his or her superior position. This view of envy is rooted in a belief that self-improvement is possible, the world is a fair and just place, and the other person is to be admired because he or she worked hard to attain that superior position. Benign envy typically inspires people to work harder to attain for themselves what the currently superior person has (e.g., it motivates upward social mobility, working hard, and “keeping up with the Joneses”). With malicious envy, however, the person believes that the other does not deserve his or her superior position—that the other person has benefitted from some undeserved advantage (van de Ven Zeelenberg, & Pieters, 2012). This inequality is perceived as unjust and unfair, and it is accompanied by feelings of ill-will, resentment, frustration, and anger. It often leads to behaviors designed to damage the position of the envied person (van de Ven Zeelenberg, & Pieters, 2009).

To better appreciate the distinction between the two types of envy, consider the following scenario (from van de Ven, Zeelenberg, & Pieters, 2009, p. 420):

Niels and Rik play in the first team of a good soccer club. Marcel, a teammate of Niels and Rik, is selected to play for a professional team. Niels feels benign envy toward Marcel, Rik feels malicious envy.

Participants are then asked, who (Niels or Rik) is more likely to hope Marcel succeeds as a professional and also who is more likely to commit a foul against Marcel during the next game? In addition, participants are asked who is motivated to start practicing more and who is more likely to aspire to become a professional himself. Overwhelmingly, participants infer that Niels wishes Marcel well, intends to practice more, and aspires to become a professional like Marcel, while participants infer that Rik will more likely aggress (commit a foul) against Marcel in the next game (van de Ven et al., 2009).

A similar study asked college students to describe a person they knew well who was better than they were at something. After describing this person, they were then asked, “Compared to last semester, how many hours more or less do you plan to spend on your studying in the upcoming semester?” (van de Ven, Zeelenberg, & Pieters, 2011, p. 786) Those who described a benignly envied other said that they would study more this semester than did those who described a maliciously envied other.

Somewhat counter intuitively, envy can motivate prosocial behavior from the one who is envied. The fear of being envied can lead people to act prosocially in a proactive attempt to ward off the potentially destructive effects of malicious envy. People who are very rich or well positioned in society often talk about how they “give back” to society in some way or the other or more likely recruit a friend or a media personality to communicate this message for them. So, the envied person helps others, but this behavior functions more as an appeasement strategy than it does as altruism.

The general rule is that people who are well off do not help more or less than do people who are less well off, but people who are well off (“advantaged”) become more likely to help others when they have reasons to suspect malicious envy and potential “tearing down” retribution from others (van de Ven, Zeelenberg, & Pieters, 2010).

Gratitude

Gratitude is a positive emotion that arises after receiving something of value (gift, help, assistance, guidance) from another person (McCullough, Kilpatrick, Emmons, & Larson, 2001). For gratitude to arise, that assistance (the receipt of something of value) needs to be voluntarily given, given at some cost to the giver, and done intentionally (McCullough, Kimeldorf, & Cohen, 2008; Tsang, 2006). For instance, if your car breaks down because of a flat tire and another motorist stops to help even though it is raining and he has to use his own spare tire to get you on your way, then you are likely to feel gratitude at such an act of kindness. Gratitude is a benefit detector; it is an emotional readout that one has benefited from the generosity and prosocial behavior of another (McCullough, Kimeldorf, & Cohen, 2008).

Acts of kindness are as likely to activate the negative emotion of indebtedness in us as they are to activate the positive emotion of gratitude (Algoe, Gable, & Maisel, 2010; Tsang, 2006). Because this is so, the processes that explain when we feel indebted versus when we feel gratitude are summarized in Figure 14.5.

The distinction between the two emotional experiences begins when the recipient focuses either on the giver's kindness or on the benefit received (i.e., the money, the car repair). A focus on the kindness leads the recipient to focus on the thoughtfulness of the giver, on the positive qualities of the giver, and, most importantly, on the fact that the giver was responsive. It is this focus on the other person's responsiveness to the self that gives rise to the positive emotion of gratitude, which promotes a caring orientation. This focus on being cared for builds what was termed in Chapter 6 as a "communal relationship" (benefits are given in a noncontingent "no strings attached" way), because the person feels a greater connection and closeness to the benefactor and the relationship between the two grows toward greater intimacy and satisfaction. A focus on the benefit, on the other hand, leads the recipient to focus on what was received and the need, necessity, and heavy social obligation to repay the gift (the debt). A focus on the benefit per se and the incurred debt that now needs to be repaid gives rise to the negative emotion of indebtedness, which promotes a reciprocity motivation. This focus on reciprocity leads toward a relationship orientation that was termed in Chapter 6 as an "exchange relationship" (benefits are given in a contingent "with strings attached" way), because the person adopts a business-like "tit for tat" (this for that) orientation toward the relationship partner.

To think about the emotional dynamics portrayed in Figure 14.5, consider a simple act of kindness. Imagine that you and a colleague are working together on a project. After a short break, your colleague returns with two refreshments, one of which is for you (from Regan, 1971). What do you feel? What are the downstream implications of this small act of kindness—gratitude and relationship closeness or indebtedness and burdensome obligation?

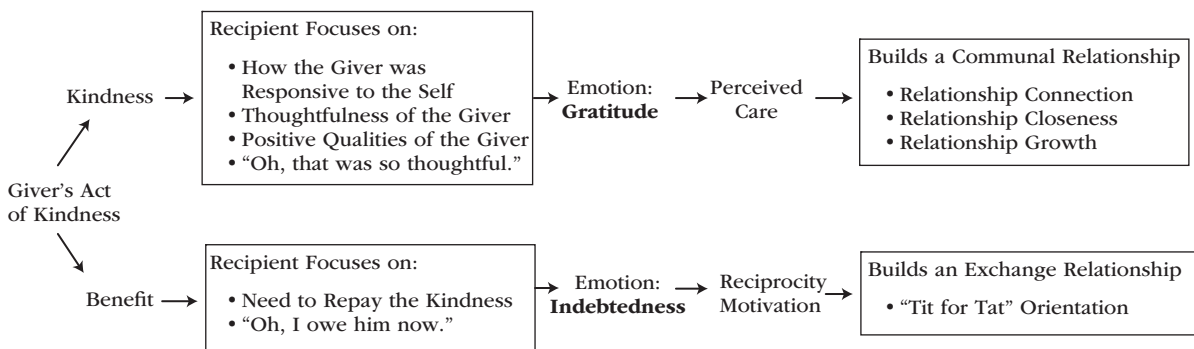


Figure 14.5 Sequence of Relationship-Based Events in Gratitude versus Indebtedness

Gratitude is an important social emotion because it reinforces generosity and prosocial behavior (e.g., hugging, saying “thank you”), and it motivates beneficiaries to behave prosocially. The experience of gratitude promotes and builds positive interpersonal relationships (Lambert et al., 2017). Gratitude therefore both signals and motivates generosity and cooperation between two people. In an exchange of generosity, both the benefactor and the beneficiary experience positive affect and greater relationship satisfaction (Algoe, 2012; Algoe, Fredrickson, & Gable, 2013).

People who experience gratitude, compared to those who do not, have a positive perception of their benefactor, experience a boost in relationship satisfaction, are more likely to act prosocially (e.g., cooperate), spend more time with the benefactor, and experience a sense of healing within a relationship that is otherwise hurting (Algoe Gabel, & Maisel, 2010; Bartlett et al., 2012; Gottman & Silver, 1999; Lambert & Fincham, 2011; McCullough, Emmons, & Tsang, 2002). This relationship satisfaction boost from gratitude applies not only to the one who receives the kindness but to the one who gives it as well (Lambert et al., 2010). Gratitude also seems to stimulate personal reflection in which the person reconsiders how helpful and how giving he or she should be toward others in the future (Bartlett & DeSteno, 2006), and this is especially true as one reflects on the perspective, needs, and desires of the benefactor—the person who caused the sense of gratitude to occur in the first place. In this sense, gratitude is a crucial emotional catalyst if the relationship is to grow from a business-like exchange relationship into one that is communal, intimate, and caring.

Gratitude also sometimes acts as a motivation for upstream generosity (Nowak & Roch, 2007) in which the person who receives a benefit then decides to pay back the benefit by giving back not to the original beneficiary but, rather, to the neighborhood, community, or world. This occurs when gratitude stimulates an experience of social integration (e.g., “I love helping people”) and, together, the emotional gratitude and the social integration motivate the person to pass on the kindness to an upstream third party (Froh, Bono, & Emmons, 2010). Such a process was the subject of the 2000 movie (and book), *Pay It forward*.

Disappointment and Regret

Disappointment and regret are emotions that are intrinsic to decision making (Chua et al., 2009; van Dijk & Zeelenberg, 2002). They both arise from the nonoccurrence of a desired outcome, and both involve reflection on “what might have been” had things turned out differently (Zeelenberg, van Dijk, Manstead, & van de Pligt, 1998).

Disappointment arises when comparing the actual outcome one received versus an imagined better outcome that might have resulted from the same action or the same choice. With disappointment, a positive outcome was planned and anticipated, an action was taken or a choice was made, but the positive outcome did not materialize. That is, the person anticipated passing the test, but did not. Or, the person anticipated getting the job, but did not.

Regret is different from disappointment in that the person believes that he or she could have acted differently or could have made a different choice, but did not. Regret arises with the nonoccurrence of a desired outcome caused by a wrong behavior or a bad choice: “I took action, it turned out bad, and now I regret I did or chose A (rather than B).” Regret arises after poor decision making and self-regulation such as “I did not study enough, and now I regret it” and “I wasted my money, and I now regret it.” Thus, regret involves an element of personal responsibility in which the “I” in “I made a bad choice” is emphasized. When the nonoccurrence of the positive outcome is attributed only to unfavorable circumstances, then the person experiences disappointment, not regret (Gilovich & Medvec, 1994).

Regret and disappointment produce a different pattern of feelings, thoughts, motivations, and action tendencies (Chua et al., 2009; Zeelenberg, van Dijk, Manstead, & van de Pligt, 1998, 2000). These different downstream consequences appear in Table 14.2. Disappointment involves an acceptance of the negative outcome that is accompanied by feelings of powerlessness and by motivation

Table 14.2 Different Consequences of Regret versus Disappointment

| | Regret | Disappointment |
|-----------------|---|---|
| Feelings | I should have known better. Strong dislike of the outcome. | I feel powerless. Moderate dislike of the outcome. |
| Thoughts | I made a mistake. | My expectancy was disconfirmed. |
| Motivation | I want a second chance. I want to undo what happened. | This is nothing I want to do. |
| Action Tendency | I want to correct my mistake. | This is nothing I want to do. |

and action tendencies that revolve around doing nothing. Regret, on the other hand, involves blaming the self and generating the motivation and action tendencies to reverse the self-caused negative outcome (“I want to correct my mistake.”). Regret is experienced as a painful lesson that things would have been better had a different choice been made, so it therefore functions as an emotional cue to take future decision-making opportunities more seriously. Regret can therefore be functional in guiding future decision making, although it can also be dysfunctional by leading to severe psychological distress (Epstude & Roese, 2008). Thus, while regret and disappointment are similar emotions—both follow the nonoccurrence of a desired outcome—they differ in their implications for what the person will do in the near future with regret motivating restorative behavior and disappointment leading to resignation and inertia.

Hope

Hope arises with a wish that a desired goal might be attained (Bruininks & Malle, 2005). Hope is rooted in the desire for some future outcome that is of particular importance to the person, and it typically involves a wish for an attractive goal (e.g., I hope I get accepted into my favorite college), an attractive event (e.g., I hope I get tickets to the big game), or a desired relationship (e.g., I hope I get back together with my boyfriend). To experience hope during goal striving, however, one does need to see the seeds of progress (Nelissen, 2016). The motivational function of hope is to keep the person focused on the goal, to keep the person going, to keep the person engaged in the pursuit of the desired goal, and to act as a counterforce to negative feelings that are otherwise associated with doubt that the desired future goal will ever materialize (Bruininks & Malle, 2005).

Schadenfreude

Imagine you are at a dinner party by an outdoor pool watching a smiling, laughing, partying bride who is the center of everyone’s attention but, then, oops, she loses her footing and falls over backward into the pool, making a big splash. What emotion would you feel? Most people would feel compassion, concern, and some form of distress. But what if you believed that she “deserved what she got” for some reason? What if she were somehow responsible for the blunder—if she got drunk and started to act carelessly and irresponsibly, for instance? What if she was a member of a rival group (an out-group)? What if you believed that she was basically a dishonest person (a “fake”) or that she was immoral as a human being? What if you just basically did not like her? What emotion would you feel then? (based on Berndsen & Feather, 2016; Brambilla & Riva, 2017; Hoogland et al., 2015)

Schadenfreude (“Sha-den-freud-ah”) is a German word that entails taking pleasure at the misfortune of others. When others suffer a setback, the person who feels *schadenfreude* smiles just a bit and takes some measure of pleasure in the other’s suffering (“malicious pleasure”). *Schadenfreude* typically arises when the other person is disliked (Hareli & Weiner, 2002), deserving of the misfortune

(Hoogland et al., 2015), envied (Smith et al., 1996), falls from grace (van Dijk et al., 2006), has achieved in a way that is perceived to be undeserved and resented (Feather & Sherman, 2002), or, most especially, is perceived to be immoral in some way (Berndsen & Feather, 2016; Brambilla & Riva, 2017).

Empathy

Empathy is triggered by another person's emotional state or situational circumstances, and it involves the observer feeling what the actor feels. Empathy occurs as an emotional transformation process in which the observed emotional state of another becomes one's own emotional experience. Its phenomenology includes feeling moved by and compassionate or sympathetic toward the other (Eisenberg & Fabes, 1990; Niezink et al., 2012). The essence of empathy is, first, feeling what the other feels and, second, experiencing an other-oriented desire for the other to feel better.

Empathy, or empathic concern, arises from two principle antecedents (Hoffman, 2008). First, empathy arises from mimicry, in which one's own facial expression, voice tone, and posture change in synchrony with the other person's facial, vocal, and postural expressions. The mimicked muscle movements then trigger feedback within oneself to activate the neural structures that create the emotion in oneself (Regenbogen et al., 2012). This is a rather involved social-communicative process, but recent evidence suggests that the same effect occurs through mirror neurons. With mirror neurons, the same neural pattern that is involved in self-generating one's own emotion is also involved in observing someone else feel that same emotion. That is, observing another's facial expression is all it takes to feel her emotion, at least to the extent that observing that emotional expression activates one's own mirror neurons. A similar process occurs when we simply hear about another's distress or when we read about another's distress (e.g., in a letter or e-mail). If the listener uses the conversation or letter to generate visual and auditory images of the other's emotional facial, vocal, and postural expressions, then the mirror neurons may be activated in the same way they are activated with direct observation.

Second, empathy arises from perspective taking. Perspective taking is imaging oneself in another's place. Perspective taking does not involve experiencing the other person's emotional state, but instead involves understanding the other person's feelings. Perspective taking combines two skills—namely, suppressing one's own perspective (at least to some extent) and then understanding and taking on the perspective of the other (Davis, 2004). Because perspective taking is an antecedent to empathy and not empathy itself, some researchers make the distinction between cognitive empathy that involves perspective taking and understanding versus emotional empathy that involves other-focused feelings such as concern, sympathy, compassion, and being moved (Hoffman, 2000; Shamay-Tsoory, Aharon-Peretz, & Perry, 2009).

An experience of empathy typically heightens the perceptions of closeness toward the other, and it creates an approach-based prosocial motivational orientation toward the other. People engage in more prosocial behavior when they feel empathy toward the other, compared to when they do not. And people engage in a high level of prosocial behavior when they feel strong empathy toward the other, while they engage in only a moderate level of prosocial behavior when they feel only mild empathy toward the other. And people feel greater empathy and help more when they combine both perspective taking and other-concern (e.g., “imagine yourself as the other person”) than when they rely only on perspective taking without the affective kick that comes from empathic concern (e.g., “imagine the other”) (Myers, Laurent, & Hodges, 2013).

Empathy is distinct from personal distress (sadness). Personal distress is a self-focused aversive emotional response that occurs upon seeing another suffering in some way. Because personal distress feels aversive, people are more likely to walk away from it and distance themselves from the person in need, rather than remain in the situation, continue to experience that personal stress, and take action to help the other. While empathy generates an approach-based prosocial motivation to help,

BOX 14 *Will You Help Me? Will I Help You?*

Question: Why is this information important?

Answer: It shows that prosocial behavior is often emotion motivated.

Helping is necessarily an emotion-motivated prosocial behavior. It would be nice if people routinely helped others, but helping is typically a personally costly thing to do. The one who helps makes a sacrifice (e.g., time, effort, money, etc.) or puts oneself at risk in some important way. To overcome these costs of helping, we need the motivational support of prosocial emotion.

Will I Help You?

When we find ourselves in the role of “the helper,” whether we help depends in a large part on how we feel. Positive affect and emotions such as gratitude are both robust predictors of helping motivation and behavior (Bartlett & DeSteno, 2006). When we feel gratitude, our thoughts are prosocial (e.g., “Oh, that was so thoughtful of her.”) and prosocial thinking gives the proverbial green light to helping in a way that neutral thinking does not (Emmons & McCullough, 2004). Helping also depends on where our attention is directed. When self-focused (what I am feeling, the costs I might incur), the would-be helper tends to feel sympathy or pity (or even distress or *schradenfreude*) toward the other. None of these emotions are reliable predictors of helping, as they are more likely to motivate escape and avoidance rather than staying and helping. When other-focused (what the other is feeling, what the other needs), the would-be helper tends to feel empathy. Empathy is a very good predictor of helping (Dovidio, Piliavin, Schroeder, & Penner, 2006). People who feel empathy are moved to help. The closely allied emotions of compassion and guilt sometimes do and sometimes do not move us to help. When our attention is other-focused,

compassion and guilt do tend to move us to helping; when our attention is self-focused, these same emotions tend to backfire and undermine helping, as they are experienced as something aversive that we need to get rid of (often by escaping or leaving).

Will You Help Me?

When we find ourselves in the role of the one requesting help, whether we receive aid depends in large part on the emotions we express. When a person who requests help simultaneously displays a neutral (unemotional) facial and vocal expression, onlookers typically feel little inclination to help. Similarly, when a person who requests help displays an inappropriate emotion such as anger (e.g., “I’m mad and upset that you are not helping me!”), onlookers again typically feel little inclination to help. Expressions of anger simply do not fit the script for a request to help, and the onlooker rightly suspects that the person in need will turn on the helper and blame him or her for their current predicament (e.g., “I’m in need, and it is your fault (not mine)”); Kuppens & Van Mechelen, 2007). However, when a person who requests help simultaneously displays an appropriate emotion such as sadness or disappointment, onlookers typically do feel an inclination to help. The reason why emotions such as sadness and disappointment seem so appropriate is because these emotions tell us that the other person is truly in need—that they are powerless, have little control over the situation, cannot individually cope with the situation (are dependent on others), and are resigned to their sad fate—unless some nice person comes along to help. In other words, facial and vocal expressions of sadness, distress, and discouragement act as effective “help me do what I cannot do for myself” signals (Eisenberg, 2000; Van Doorn, Van Kleef, & van der Pligt, 2014; Van Kleef, De Dreu, & Manstead, 2006).

personal distress generates only a rather egotistical desire to relieve one’s own distress in an indirect way by first removing the distress of the other.

As highlighted in Box 14, empathy is an important prosocial emotion that both facilitates cooperation and helping on the one hand and acts as a counterforce or an outright antidote to antisocial behavior such as aggression and bullying on the other. For instance, if you have a deep sense of empathy toward the other, it becomes almost impossible, motivationally speaking, to harm them (via aggression, bullying).

Compassion

Compassion is a complex emotion, partly because it is peculiarly both a positive and a negative emotion. People generally think of compassion as a positive emotion, but when they are actually experiencing, it then feels like a negative emotion (Condon & Barrett, 2013). Compassion is

a positive emotion when it connotes caring and when the focus is on the one who is cared for (compassion + empathy), while compassion is a negative emotion when it is tightly paired with distress and suffering and when one focuses on that personal distress (compassion + distress) (Singer & Klimecki, 2014).

The mixed status of compassion is probably due to the fact that compassion can be elicited by another's suffering, but it can also be elicited by another's heartwarming story. To depict a heartwarming experience within a context of suffering, researchers asked participants to listen to a two-minute audiotape of a:

1. Woman telling about her sister's death in a subway accident and her most prized possession of a voicemail left by her sister moments before that said "I love you."
2. Husband and wife discussing the man's Alzheimer's, his love for his grandson, and the woman's gratefulness for being able to take care of her husband during the difficult disease (Condon & Barrett, 2013).

Both stories elicited significant increases in heartwarming compassion, but both stories also elicited significant gains in personal distress (i.e., feeling distressed, troubled, upset).

The conclusion is that while compassion itself is thought of as a positive emotion, the sympathy it entails toward another's suffering (e.g., poverty, vulnerable infants) brings along an element of psychological distress (Condon & Barrett, 2013; Simon-Thomas et al., 2012). Hence, distress is probably inherent in the complex emotional experience that is compassion since its function is to reduce another's suffering in a heartfelt way.

SUMMARY

This chapter examined 20 individual emotions that were grouped into the three categories of basic emotions, self-conscious emotions, and cognitively complex emotions.

The emotional dynamics of seven basic emotions were detailed. Fear arises from a perceived danger, a threat to one's well-being, and from a perceived vulnerability of being overwhelmed. Its functional purpose is to protect the self as by fleeing. Three close emotional allies of fear include anxiety, posttraumatic stress disorder, and phobias. Anger arises from the presence of an obstacle to one's goal pursuit and from the sense that the situation is not what it should be. Anger's functional purpose is to overcome the obstacle and to right the illegitimate wrong. Disgust arises as repulsion against a contaminated object such as food, but it can also arise from cognitive, social, and moral contaminants. The function of disgust is to reject the contaminated object. Contempt arises from feeling morally superior to another person, and its function is to maintain the social order. Sadness arises from an experience of separation or loss, and its function is to repair and reverse that loss or failure, if possible. Sadness can slip into depression when it is accompanied by emotional overproduction and rumination. Joy arises from desirable outcomes such as making progress toward a goal or getting what we want, and its function is to engage in social interaction and to continue one's goal striving. Interest arises from environmental novelties, opportunities to gain new information, and need-involvement opportunities. Its function is to vitalize and replenish exploration, engagement, and learning.

The emotional dynamics of five self-conscious emotions were detailed. Shame arises from violations of standards associated with morality and competent functioning that lead to a perception that the self is inferior or damaged in some way. Shame's functional purpose is to restore the self, although shame also generates a motive to protect the self. Guilt arises from the perception that one's behavior caused harm, loss, or distress to a relationship partner, and its function is to make amends. Embarrassment follows a social blunder and signals that something is amiss with the self. Its function is to appease the audience and communicate that the blunder was an accident rather than

evidence of an enduring personal inadequacy. Pride arises from success and achievement, and it has the two facets of authentic pride and hubristic pride. Its function is to motivate the persistence necessary to acquire new skills and persist in challenging activities. Triumph is an emotional reaction to competitive victory and leads to an expressive display of both self-expression and social dominance.

The emotional dynamics of eight cognitively complex emotions were detailed. Envy is the painful emotion that arises from the good fortunes of others, and its function is to level the status of self and others. With benign envy, the person is motivated to move the self up to the level of the other; with malicious envy, the person is motivated to pull the other back down to the self's level. Gratitude arises from a gift to the self that comes at a cost to the giver. It functions as a benefit detector. People who feel gratitude report a positive perception of their benefactor, experience a rise in relationship satisfaction, and are motivated to act prosocially. Disappointment and regret are two decision-making emotions that arise from the nonoccurrence of a positive outcome. While disappointment leads to resignation and inertia, regret is experienced as a painful lesson that things could have been better, and it therefore motivates taking future decision-making opportunities more seriously. Hope arises with a wish that a desired goal will be attained, and it motivates persistence in the pursuit of that desired goal. Schadenfreude arises from taking pleasure at the misfortune of others. Empathy is feeling the emotional state of another, and it arises from both mimicry and perspective taking. Empathy heightens the perception of closeness with the other and motivates a prosocial (helping) orientation toward the other. Compassion is both a positive and negative emotion. When paired with an experience of another's suffering, it feels like a negative emotion, but when paired with both suffering and a heartwarming experience, it feels like a positive emotion. In both cases, the function of compassion is to reduce the other's suffering.

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Part Four

Applied Concerns

Growth Motivation and Positive Psychology

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SUMMARY

READINGS FOR FURTHER STUDY

Each of us is born with a temperament. Our inherited dispositional temperament predisposes us to act in ways that are naturally inhibited and reserved or in ways that are naturally adventurous. Biologically speaking, some of us are born to be natural introverts while some of us are born to be natural extraverts.

But cultures have preferences for how people should behave. For instance, the typical college campus culture in the United States values extraversion, emotional intensity, and being exciting and entertaining while it relatively devalues introversion, emotional calm, and being a wallflower. Thus, students hear two messages of how to behave socially—one from their biological temperament and another from cultural priorities. This dual message is not much of a problem for extraverts: Just act naturally and the culture will value you. It is a problem, however, for introverts.¹

What happens when biological disposition contradicts socialization preference? What happens when an experience feels right and natural, but the culture devalues anyone who gravitates toward that experience? Should the introvert follow the cultural press and reject his inner nature and try to substitute a more socially acceptable extraverted style in its place?

Introverts who act like extraverts do experience some of the positive emotional benefits of extraversion (e.g., having fun at a party; Fleeson, Malanos, & Achille, 2002). And, what is wrong with an effort to adjust to and accommodate to one's culture? Humanistic psychology is willing to answer that question. It argues that rejecting one's inherent nature in favor of social priorities puts personal growth and psychological well-being at risk.

Imagine yourself in the following experiment (Ford, 1991a). The experiment begins by asking you to self-report your temperament on questionnaires assessing phenomena such as activity level and extraversion. The experimenter also asks for permission to send identical questionnaires to one of your parents (i.e., your primary caretaker), asking him or her to complete each questionnaire in terms of how you behaved during the preschool ages of 3–5 years. The ages 3–5 are important because toddlerhood is old enough for temperament to express itself and be observed by parents yet young enough to precede the heavy socialization that occurs after toddlers venture out of the house. The study's prediction is that adults who express something other than their natural childhood temperament will show present-day maladjustment. That is, the prediction is that when the culture tries to replace a person's devalued inner nature with a socially valued style—that is, tries to socialize the introvert into an extravert, then maladjustment follows.

To index maladjustment, the experimenter also asks participants to complete questionnaire measures of anxiety, depression, hostility, feelings of inadequacy, and physical-somatic troubles. To test

¹Interestingly, the reverse is typically true in the East, because nations such as China and South Korea culturally value introversion and conscientiousness over extraversion and being impulsive and carefree.

the humanistic hypothesis, the experimenter computes a discrepancy score of the difference between your expressed temperament as an adult and your parent's rating of your temperament as a child. Results showed the greater the discrepancy, the greater the adult's maladjustment. People who were pressured—willingly or unwillingly—into acting in ways that contradicted their biologically based temperaments suffered.

These findings set the stage for the theme of the present chapter: "If this essential core (inner nature) of the person is frustrated, denied, or suppressed, sickness results" (Maslow, 1968). To Abraham Maslow's theme, we can add its logical complement: If this essential core is appreciated, supported, and nurtured, health results.

The everyday choice to follow "one's inner nature" versus "cultural priorities" is not a neutral choice. Social preferences and social priorities are communicated and enforced as desirable ways of acting by all sorts of social advocates, including incentives, rewards, approval, love, advertising messages, social demands, norms, expectations, reality TV shows, and all the people we hear each day that tell us what we should, ought to, have to, and must be. The social message is loud and strong. Inner guides, in contrast, are subtle. Unlike the culture around us, inner guides have no organized lobby to persuade us what to do. So, in everyday living, our inner guides are relatively quiet while social expectations and cultural priorities are relatively loud.

It is easy to hear the culture's priorities, but it might not be so psychologically healthy to follow them unquestionably. For instance, people who choose to devote their lives to the pursuit of the "American dream" (the pursuit of money, fame, and popularity) suffer more psychological distress (anxiety, depression, narcissism) than do people who pursue inner guides like personal growth and high-quality relationships. This is true even when those who pursue the American dream do actually attain the money, fame, and popularity they seek (Kasser, 2002; Kasser & Ryan, 1993, 1996). One striking example of this occurs with professional fashion models. These rich, famous, and popular women tend to suffer ill-being, personality maladjustment, and low-quality (superficial) relationships (Meyer et al., 2007).

Humanistic psychology plays a key role in motivation by asking people to pause, listen to their inner guides, and consider the wisdom of coordinating their inner guides (interests, preferences, values) with their day-to-day lifestyle. Research on positive psychology adds that inner guides such as meaning, authenticity, and openness to experience add reservoirs of strength and wellness and, further, that it is the effort to develop these personal strengths, rather than the effort to realize cultural priorities, that makes us happy (Fredrickson, 2009; Seligman, 2002, 2011).

HOLISM AND POSITIVE PSYCHOLOGY

Human motives can be understood from many different perspectives, ranging from the most objective viewpoints of objectivism (Diserens, 1925), behaviorism (Watson, 1919), and logical positivism (Bergmann & Spence, 1941) to the most subjective viewpoints of existentialism (May, 1961), gestalt psychology (Goldstein, 1939; Perls, 1969), and holism (Aristotle, *On the Soul*). Along with existentialism and gestalt psychology, holism asserts that a human being is best understood as an integrated, organized whole rather than as a series of differentiated parts. It is the whole organism that is motivated rather than just some part of the organism, such as the stomach or the brain. In holism, any event that affects one system affects the entire person. To borrow a phrase from Maslow, it is John Smith who desires food, not John Smith's stomach.

In modern parlance, holism sees little value in a "bottom-up" approach (i.e., focus on specific, individual motives, one at a time, and in relative isolation from one another) and, instead, prefers a "top-down" approach (i.e., focus on general, all-encompassing motives, seeing how the master motives govern the more specific ones). Both the bottom-up and the top-down approaches to motivation study have merit. This chapter, however, highlights the top-down approach (while Chapters 3 and 4 highlighted the bottom-up approach).

Holism

Holism derives its name from “whole” or “wholeness” and therefore concerns itself with the study of what is healthy or unbroken. In contrast, a broken view of personality emphasizes human beings as fragmented sets of structures or forces that oppose one another. For instance, a broken view of self emphasizes the conflict between an ideal self and an actual self (Chapter 9) or the conflict between the biological desire for food and the social demand for a slim figure (Chapter 4). In psychoanalytic theory (see Chapter 16), a broken self manifests itself in a sort of psychological competition among the three personality structures of id, ego, and superego (i.e., psychodynamics).

In contrast, humanism identifies strongly with the holistic perspective (i.e., top-down master motives). Humanistic psychotherapists see their role as a therapist to facilitate the client’s growth-related and integrative processes that they assume exist within the client (Miller & Rollnick, 2002). In the same spirit, humanistic educators see their role as an educator to vitalize the student’s growth-related and integrative processes (e.g., curiosity, intrinsic motivation; Montessori, 1967).

In a nutshell, humanistic psychology is about discovering human potential and encouraging its development. To accomplish this, the humanistic perspective concerns strivings (1) toward growth and self-realization and (2) away from facade, self-concealment, and the pleasing of others (Rogers, 1966). In every page authored by humanistic thinkers, the reader can hear a commitment to personal growth as the ultimate motivational force.

Positive Psychology

Positive psychology is an emerging and rapidly growing field (Seligman & Csikszentmihalyi, 2000; Lopez & Snyder, 2009; Snyder & Lopez, 2002). It seeks to articulate the vision of the good life (psychologically speaking), and it uses empirical methods to understand what makes life worth living. The goal is to show what actions lead to experiences of well-being, to the development of individuals who are optimistic and resilient, and to the creation of nurturing and thriving institutions and communities. The subject matter of positive psychology is therefore positive subjective experiences such as happiness, well-being, optimism, meaning, resilience, authenticity, open-mindedness, compassion, gratitude, creativity, wisdom, good citizenship, a strong work ethic, and the nurturance of others.

Positive psychology is not a subfield of humanistic psychology. It chooses the same subject matter as does humanistic psychology, so the two fields do overlap substantially. What sets positive psychology apart from humanistic psychology is not its subject matter but is, instead, its strong reliance on hypothesis-testing, data-based empirical research. Positive psychology is the more scientifically rigorous of the two fields of study. As one positive psychologist put it, “Positive psychology is psychology, and psychology is science” (Peterson, 2006).

Positive psychology looks at a person and asks, “What could be?” As a field, positive psychology realizes both that people routinely fall short of “what could be” and also the epidemic-like prevalence of pathologies such as depression, substance abuse, school and workplace apathy, and violence. It further realizes the importance of trying to cure or reverse these human pathologies. Mostly, however, positive psychology devotes attention to the proactive building of personal strengths and competencies. To prevent sickness, people need to inoculate themselves with strengths such as hope, optimism, and meaning. The question is less “How can we correct people’s weaknesses?” and more “How can we develop and amplify people’s strengths?” How can families, schools, corporations, governments, interpersonal relationships, and whole societies be restructured to better develop human strengths?

SELF-ACTUALIZATION

Self-actualization is a developmental striving. It is a process of leaving behind timidity, defensiveness, and a dependence on others that is paired with moving toward the courage to create, to view life realistically, and to achieve autonomous self-regulation. It is “an underlying flow of movement

toward constructive fulfillment of its inherent possibilities” (Rogers, 1980). It is an ever fuller realization of one’s talents, capacities, and potentialities (Maslow, 1987).

The two fundamental directions that characterize self-actualization as a developmental process are autonomy and openness to experience. *Autonomy* means moving away from heteronomy and toward an ever-increasing capacity to depend on one’s self and to regulate one’s own thoughts, feelings, and behaviors (Deci & Ryan, 1991). *Openness* means receiving information (including feelings) such that it is neither repressed, ignored, or filtered, nor distorted by wishes, fears, or past experiences (Mittelman, 1991).

Hierarchy of Human Needs

The cornerstone of Maslow’s understanding of motivation is the proposition that human needs can be organized into clusters. The arrangement of these needs clusters, Maslow felt, was best communicated visually by a hierarchy, as illustrated in Figure 15.1. The first set of needs contains basic physiological needs, as discussed in Chapter 4. All the other needs in the hierarchy are psychological needs (safety and security, love and belongingness, esteem, and self-actualization). The hierarchical presentation conveys three themes about the nature of human needs (Maslow, 1943, 1987).

1. Needs arrange themselves according to potency or strength. The lower the need is in the hierarchy, the stronger and more urgently it is felt.
2. The lower the need is in the hierarchy, the sooner it appears in development. Young people experience only the lower needs, while older people are more likely to experience the full range of the hierarchy.
3. Needs in the hierarchy are fulfilled sequentially, from lowest to highest, from the base of the pyramid to its apex.

Theme 1 proposes that the survival-based needs (at the bottom of the hierarchy) dominate as the strongest motives, whereas the self-actualization needs (at the top) are the weakest. Here, Maslow makes the point that self-actualization needs are relatively quiet urges that are easily overlooked in the rush of one’s day-to-day affairs. Theme 2 communicates that the lower needs (e.g., safety and security) characterize needs typical of nonhuman animals and of children, whereas the higher needs (e.g., esteem) are uniquely human and pertain to adults. Theme 3 stipulates that satisfying

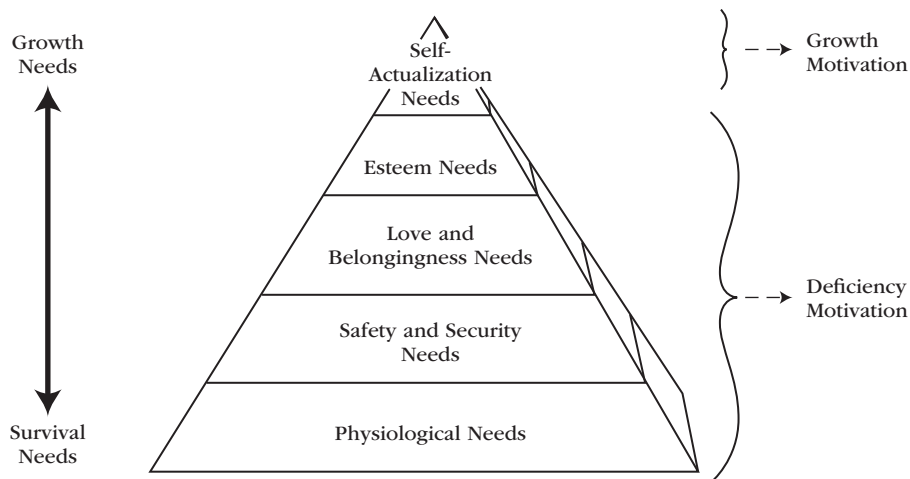


Figure 15.1 Maslow’s Need Hierarchy

lower needs is a prerequisite to satisfying higher needs. Hence, before people experience the needs for esteem and self-actualization, they must first sufficiently gratify their physiological, safety, and belongingness needs.

Deficiency Needs versus Growth Needs

Biological disturbances (e.g., thirst, hunger) and needs for safety, belongingness, and esteem are collectively referred to as deficiency needs. Deficiency needs are like vitamins; people need them because their absence inhibits growth and development. The presence of any of the deficiency needs indicated that the individual was in a state of deprivation, whether that state of deprivation involved food, job security, group membership, or social status. Maslow (1971) characterized such deprivation as a form of human sickness, a term he used to connote a failure to move toward growth and actualization.

Given satisfaction of all deficiency needs, growth needs surface and render the person restless, discontent, and wanting something more from life. The person no longer feels hungry, insecure, isolated, or inferior, but instead feels like Belle from the *Beauty and the Beast* who sings, “I want more than this provincial life.” Growth needs—or self-actualization needs—provide energy and direction to become what one is capable of becoming: “A musician must make music, an artist must paint, a poet must write, if he is to be ultimately happy” (Maslow, 1943).

It can be difficult to pinpoint precisely what self-actualization needs are and are not. One can understand physiological needs by thinking of hunger and thirst, but self-actualization is a more abstruse term. It is actually a master motive that coalesces the following 14 “metaneeds” or “B-values”: wholeness, truth, beauty, spontaneity, justice, simplicity, humor, transcendence, uniqueness, perfection, completion, richness or totality, effortlessness, and autonomy (Maslow, 1971).

One way to discover what self-actualization needs are is to pay attention to the pathological state that arises from their absence (Maslow, 1971). For instance, when deprived of the need for wholeness, the person feels a sense that one’s world is falling apart in chaos and disintegration. When deprived of a sense of aliveness, the person suffers apathy and just goes through the motions day after day. A man deprived of the need for uniqueness might speculate that his wife could easily find another mate that would be just as good a husband as he. In other words, sometimes it is easier to hear people’s pathological states of disintegration, deadness, sameness, dishonesty, humorlessness, and despair than it is to hear people’s needs to grow, develop, and become the person they are capable of becoming.

Research on the Need Hierarchy

Maslow’s need hierarchy was, and still is, wildly popular. It has been embraced as a *modus operandi* in education, business, management, the workplace, psychotherapy, and the health professions of medicine, nursing, and geriatrics (Cox, 1987). The need hierarchy can still be found in practically all introductory psychology textbooks. It also fits nicely with both personal experience and common sense.

Despite its tremendous popularity, research has actually found very little empirical support for the need hierarchy (Wahba & Bridwell, 1976). That is, children are not more occupied with physiological and safety needs, while adults are not more occupied with esteem and actualization needs (Goebel & Brown, 1981). Also, college students prioritize their needs as follows (from least to most important): esteem, security, self-actualization, belongingness, and physical/physiological (Mathes, 1981). Overall, the pattern of findings casts considerable doubt on the hierarchy’s validity.

The only finding with empirical support is the conceptualization of a dual-level (not a five-level) hierarchy. In a dual-level hierarchy, the only distinction is between deficiency and growth needs (Wahba & Bridwell, 1976), and when researchers make this distinction, they do find some empirical

support for the two-level hierarchy (Sheldon et al., 2001). Thus, three conclusions from research on the need hierarchy are to:

1. Reject the five-level hierarchy.
2. Collapse the physiological, safety, belongingness, and esteem needs into the single category of deficiency needs.
3. Hypothesize a simplified, two-level hierarchy distinguishing only between deficiency and growth needs.

Given these conclusions, take a second look at Figure 15.1. In your mind's eye, erase the three horizontal lines that separate the physiological, safety, belongingness, and esteem needs. With these lines erased, you will see one large triangle that includes the full range of the deficiency needs (motives for surviving) and one small triangle at the top for the self-actualization needs (motives for thriving) (Welzel, 2002). Such a conceptualization does tend to fit the data rather well.

Encouraging Growth

When talking and theorizing about deficiency needs, Maslow made some mistakes. But when talking about growth needs, he was much more in his element, and many of his ideas about growth needs have indeed stood the test of time.

Maslow estimated that less than 1 percent of the population ever reached self-actualization. Because the self-actualization needs were supposedly innate, one is left wondering why everyone does not ultimately self-actualize. In some cases, Maslow reasoned, people fail to reach their potential because of a nonsupportive internal (e.g., chronic back pain, self-criticism) or external (e.g., interpersonal neglect, abuse) environment. In other cases, the person was responsible for her own lack of growth (i.e., each of us fears our own potential, which Maslow termed the “Jonah complex,” after the timid Biblical merchant who tried to flee his great calling). Like Maslow, all humanistic thinkers continue to emphasize that the process of self-emergence is an inherently stressful and anxiety-provoking process, because it always makes the person face the insecurities of personal responsibility. When a person works toward self-emergence, she typically feels isolated and, to some degree, alone, or what Erich Fromm (1941) called the “unbearable state of powerlessness and aloneness.” Facing such insecurity and having the personal responsibility for one's own personal growth, many people—like Jonah—seek escape (Fromm, 1941). The popular musical *The Sound of Music* illustrates this process for two young identity-seeking adults, as Liesl sings “I’ll need someone older and wiser showing me what to do,” while Rolf becomes an automaton within the powerful authoritarian military force of the day. Liesl's search for someone to show her the way and Rolf's submission to a powerful authority represent two common but self-actualizing-thwarting “take the safe route” life choices.

Ever the counselor and clinician, Maslow (1971) offered several everyday behaviors for encouraging growth, as listed in Table 15.1. Maslow further stressed the importance of relationships—intimate and fulfilling relationships rather than the all-too-common superficial ones—as the soil for cultivating peak experiences (Hardeman, 1979). Setting up conditions to foster growth in our lives involved not only enacting the sort of behaviors listed in Table 15.1 but also immersing our lives in relationships that support both autonomy and openness.

ACTUALIZING TENDENCY

Humanistic psychology's emphasis on holism and self-actualization can be represented by Rogers's (1951) oft-cited quotation: “The organism has one basic tendency and striving—to actualize, maintain, and enhance the experiencing self.” Physiological and safety need satisfaction maintains the

Table 15.1 Six Recommended Behaviors by Abraham Maslow to Encourage Self-Actualization

| |
|--|
| 1. Make Growth Choices |
| See life as a series of choices, forever a choice toward progression and growth versus regression and fear. The progression-growth choice is a movement toward self-actualization, whereas the regression-fear choice is a movement away from self-actualization. For instance, enroll in a difficult but skill-building college course rather than in a safe and “easy A” course. |
| 2. Be Honest |
| Be honest rather than not, especially when in doubt. Take responsibility for your choices and the consequences of those choices. For instance, at a bookstore, pick a book that reflects your personal (but not necessarily popular) interest rather than a book featured on the best seller’s list. |
| 3. Position Yourself for Peak Experiences |
| Set up conditions to make peak experiences more likely. Get rid of false notions and illusions. Use your intelligence. If you are talented and interested in playing the piano, then spend more time in that domain and less time in more socially rewarding domains in which you lack talent and interest. |
| 4. Give Up Defensiveness |
| Identify defenses and find the courage to give them up. For instance, instead of using fantasies to prop up the self and to keep anxiety at bay, drop the indulgent fantasy and get to work on developing the skills needed to actually become that sort of person. |
| 5. Let the Self Emerge |
| Perceive within yourself and listen to that inner voice. Shut out the noises of the world. Instead of only looking to others to tell you what to do and who to become, listen to your own personal interests and aspirations of what you want to do and who you want to become. |
| 6. Be Open to Experience |
| Experience fully, vividly, selflessly with full concentration and total absorption. Be mindful and experience mindfulness. Experience without self-consciousness or defenses. Be spontaneous, original, and open to experience. |

organism, while relatedness and curiosity satisfaction enhance the organism. Rogers (1959, 1963) recognized the existence of these sort of individual motives, but he emphatically stressed the holistic proposition that all human needs serve the collective purpose of maintaining, enhancing, and actualizing the person.

Rogers, like Maslow, believed that the actualizing tendency was innate, a continual presence that quietly guides the individual toward genetically determined potentials. This forward-moving pattern of development was characterized by “struggle and pain,” and Rogers offered the following illustration for communicating the self-actualizing tendency’s ever-present path toward development and growth. The nine-month-old infant has the genetic potential to walk but must struggle to advance from crawling to walking. The struggle to make those first steps inevitably includes wobbling, falling, and feeling frustrated, hurt, and disappointed. Despite the struggle and pain, the child nevertheless persists toward walking and away from crawling. The pain and disappointment undermine and discourage the child’s motivation to walk, but the actualization tendency, “the forward thrust of life,” supports the child’s development and growth ever forward.

Organismic Valuing Process

The actualization tendency’s “forward thrust of life” has a partner. That partner is the “organismic valuing process,” an inherent capacity to judge for oneself whether a specific experience promotes or interferes with growth (Rogers, 1964). It is also an inherent capacity to judge what is important and essential for a more fulfilling life.

All experiences within the struggle and pain of actualizing one's potential are evaluated by the organismic valuing process. Those perceived as maintaining or enhancing the person are positively valued and feel right. Such growth-promoting experiences are given the metaphorical green light by the organismic valuation process and are subsequently approached. Experiences perceived as regressive are valued negatively and feel wrong. Such growth-interfering experiences are given the metaphorical yellow or red light by the organismic valuing process and are therefore subsequently avoided. In effect, the organismic valuing process provides an experiential feed-forward system that allows the individual to coordinate life experiences in accordance with the actualization tendency.

The actualizing tendency motivates the individual to want to undertake new and challenging experiences, and the organismic valuing process provides the interpretive information needed for deciding whether the new undertaking is growth-promoting. This feed-forward system is an interesting addition to a motivational analysis of behavior because it complements the many feedback systems already discussed (i.e., physiological stop system in Chapter 4, goal-feedback system in Chapter 8). With a feedback system, information follows behavior to affect continuing motivation and persistence; with a feed-forward system, information precedes behavior to communicate a proverbial green, yellow, or red light as to the initiation (rather than the persistence) of behavior.

The organismic valuing process sounds like an appealing asset, but it is important to ask, Is there really such a thing? Kennon Sheldon and his colleagues designed a series of experiments to empirically test the validity of this process (Sheldon, Arndt, & Houser-Marko, 2003). In one study, they asked participants to rate growth-promoting aspirations ("intrinsic goals," such as personal growth and relationship growth) and growth-debilitating aspirations ("extrinsic goals," such as material possessions). Then, 20 minutes later these same participants were asked to reflect on how important these two categories of goals were to them. After some reflection, people increased their rating of how important their intrinsic aspirations were. In another study, they again asked participants to rate the importance of growth-promoting aspirations and growth-debilitating aspirations, but this time they waited six weeks to ask participants to reconsider how important these goals were to their lives. After six weeks, people increased their rating of how important their intrinsic aspirations were and they decreased their rating of how important their extrinsic aspirations were. What this means is that, over time, people do tend to move toward goals and aspirations that are growth-promoting, and they do tend to move away from goals and aspirations that are growth-debilitating. As the authors conclude, "In short, it appears that people really do have some idea about what kinds of goals are most likely to be beneficial for their subjective well-being, presumably because they possess an organismic valuing process" (Sheldon et al., 2003, p. 860).

Emergence of the Self

The actualizing tendency characterizes the individual as a whole. It is an inherent part of all living things. Part of the actualizing tendency differentiates itself to become aware of its own experience. That differentiated experience becomes "the self," and it represents an awareness of experience and an awareness of one's own functioning (Rogers, 1959). With the emergence of the self, a person grows in complexity, and the organismic valuing process begins to apply not only to the organism as a whole but also to the self in particular.

The most important motivational implication of the emergence of the self is that the actualizing tendency begins to express itself in part toward that portion of the organism conceptualized as the self. This means that the individual gains a second major motivational force in addition to the actualizing tendency, namely, the self-actualizing tendency. Notice that actualization and self-actualization are not the same thing (Ford, 1991b), as the actualizing tendency and the self-actualizing tendency can sometimes work at odds with one another, as discussed in the next section.

The emergence of the self prompts the emergence of the need for positive regard—approval, acceptance, and love from others. The need for positive regard is of special significance because it

makes the individual sensitive to the feedback of others (criticisms and praises). Over time, evaluating the self from other people's points of view becomes a rather automated and internalized process.

Conditions of Worth

Soon after birth, children begin to learn the “conditions of worth” on which their behavior and personal characteristics (the self) are judged as either positive and worthy of acceptance or negative and worthy of rejection. Eventually, because the need for positive regard sensitizes the individual to attend to the acceptances and rejections of others, the child internalizes parental conditions of worth into the self structure. Throughout development, the self structure expands beyond parental conditions of worth to include societal conditions of worth as well. By adulthood, the individual learns from parents, friends, teachers, clergy, spouses, coaches, employers, and others what behaviors and which characteristics are good and bad, right and wrong, beautiful and ugly, desirable and undesirable.

According to Rogers (1959), all of us live in two worlds—the inner world of organismic valuing and the outer world of conditions of worth. To the extent to which one internalizes conditions of worth, these acquired conditions of worth gain the capacity to substitute for, and even replace, the innate organismic valuing process. When governed by conditions of worth, individuals necessarily divorce themselves from their inherent means of coordinating experience with the actualizing tendency. No longer is experience judged in accordance with the organismic valuing process. Rather, experience is judged in accordance with societal conditions of worth.

Rogers viewed the child's movement toward conditions of worth and away from organismic valuing as antithetical to the development of the actualizing and self-actualizing tendencies. When the developing individual adheres to conditions of worth, he moves farther away from an inherent ability to make the behavioral choices necessary to actualize the self and therefore becomes increasingly vulnerable to tension, conflict, and maladjustment (Rogers, 1961, 1963). The overall process and consequences of adherence primarily to the organismic valuing process or primarily to socialized conditions of worth are summarized in Figure 15.2.

The way not to interfere with organismic valuing is to provide “unconditional positive regard,” rather than the “conditional positive regard” that emanates from conditions of worth. If given unconditional positive regard, a child has no need to internalize societal conditions of worth. Experiences are judged as valuable to the extent that they enhance oneself (see upper half of Figure 15.2). If parents approve of, love, and accept their child for who she naturally is (i.e., unconditional positive regard) rather than for who the parents wish her to be (i.e., conditional positive regard), then the child's behavior and development continue to be catalyzed by the actualization tendency. Consequently, the child's self-structure will be a relatively transparent representation of her inherent preferences, talents, capacities, and potentialities. With conditions of worth, in contrast, experiences are judged as valuable to the extent that they are approved of by others and this external locus of evaluation brings in tension and maladjustment (see lower half of Figure 15.2).

In the absence of salient conditions of worth, no conflict exists between the actualizing tendency and the self-actualizing tendency, and the two motivational tendencies remain unified (Rogers, 1959). Internalized conditions of self-worth, however, create motivational conflict. With conditional self-regard, tension and internal confusion emerge because some aspects of behavior are regulated by the actualizing tendency, while others are regulated by the self-actualizing tendency (Ford, 1991b; Rogers, 1959). Self-actualization, when evaluated and directed via conditions of worth can paradoxically lead a person to develop in a way that is incongruent, conflicting, and maladaptive (Ford, 1991b). Thus, self-actualization does not necessarily lead to and result in health and growth. Mental health and personal growth occur only when the actualizing tendency and the self-actualizing tendency are in synchronization and when all experiences are evaluated within an internal frame of reference.

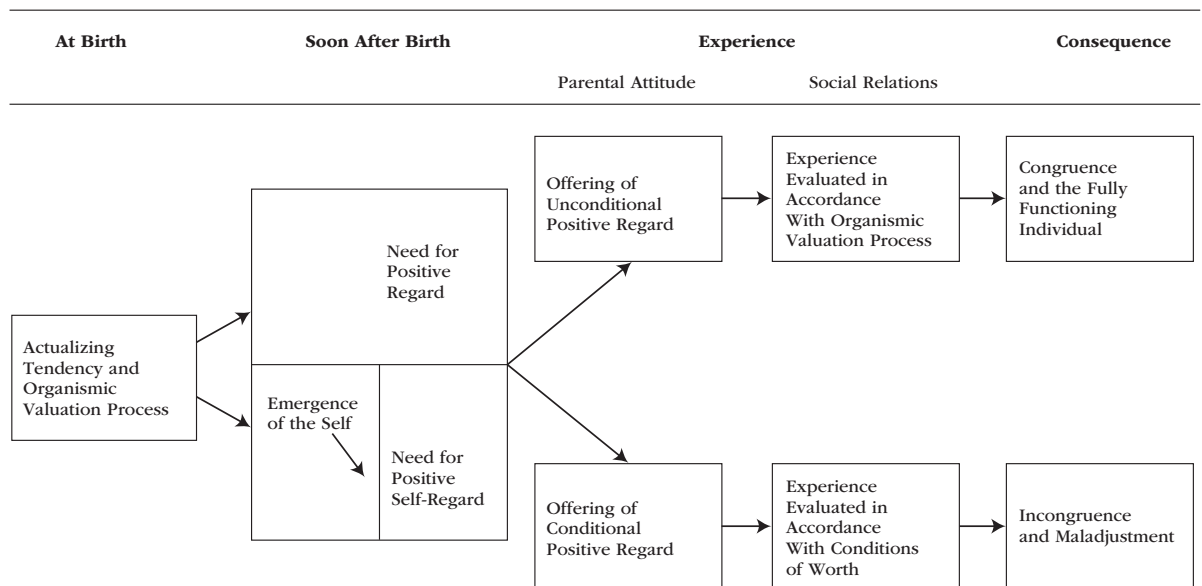


Figure 15.2 Rogerian Model of the Process of Self-Actualization and Becoming a Fully Functional Individual

Parents, for instance, are placed in difficult positions when their child expresses a somewhat socially undesirable characteristic, such as shyness or an explosive temper (e.g., recall the chapter's opening vignette). Conditional positive regard implies rejection and retraining so to promote the child's social inclusion and popularity. The difficult position the parents face manifests itself in the dilemma of avoiding psychological costs (e.g., depression) versus avoiding social costs (e.g., peer rejection) to the developing child (Dykman, 1998).

To test Rogers' ideas (i.e., the model summarized in Figure 15.2), researchers assessed parents' child-rearing practices and how these parental way of relating to children affected the child's creative potential—both in present time and longitudinally 10 years later (Harrington, Block, & Block, 1987). Researchers first assessed the extent to which parents supported their child's actualizing tendency ("I encourage my child to be curious, to explore, and to question things") and parents' thwarting of the actualizing tendency ("I do not allow my child to question my decisions"). They also assessed the child's creativity and self-expressiveness ("Is resourceful in initiating activities" versus "Gives up and withdraws where possible in terms of adversity"). For both mothers and fathers, a supportive parenting style predicted their child's current creative potential and, 10 years later, their adolescent's creative potential.

Conditional Regard as a Socialization Strategy

For Rogers, the actualizing tendency was always operative (energizing all behavior). Ever the clinical psychologist, Rogers nevertheless understood that the actualization tendency could be (and very frequently was) set aside for purposes of socialization and enculturation. To socialize children and adolescents, adults (parents, teachers) sometimes create within socializees "internal compulsions" to do what the adult wants them to do and believe (Assor, Roth, & Deci, 2004; Assor, Kaplan, Kanat-Maymon & Roth, 2005; Roth et al., 2009). The prototype of such a pressuring socialization strategy is conditional regard, which is the offering of parental love in exchange for the child's obedience. More explicitly, conditional regard is making one's attention, affection, and love depend on the other person doing what you demand that they do.

Conditional regard (i.e., conditions of worth) comes in two forms—positive and negative (Roth et al., 2009):

- *Positive conditional regard* is giving love and affection for obedience and achievement. Here, parents provide more attention and more affection when the child acts as told. When the child cleans her room and makes good grades, parents pour on the attention and affection.
- *Negative conditional regard* is taking away love and affection for disobedience and failure. Here, parents provide less attention and less affection when then child fails to act as told. When the child messes his room and brings home poor grades, parents turn cold and distant.

When parents use positive conditional regard as a socialization strategy, their children tend to take in feelings of internal compulsion (e.g., perfectionism; see Box 15) and adopt a grade-focused engagement in school (e.g., "I have to prove myself so that my parents will be proud of me and give me their attention and love."). Failure to perform these socially desired behaviors and failure to attain these parentally prescribed outcomes leave the child feeling shame and guilt (Assor et al., 2004).

When parents use negative conditional regard as a socialization strategy, their children tend to resent their parents (e.g., anger, anxiety) and become amotivated toward school, showing academic apathy and even school dropout (Roth et al., 2009). The result is that children feel rejected by their parents and the quality of the parent-child relationship nosedives. Incidentally, the same dynamics of positive and negative conditional regard play themselves out in adult romantic relationships (Kanat-Maymon, Roth, Assor, & Raizer, 2016).

BOX 15 *Perfectionism as Conditions of Worth*

Question: Why is this information important?

Answer: It invites you to examine the origins and implications of your own sense of perfectionism.

Nowhere in the industrialized world is the suicide rate higher for young men than it is in New Zealand. The everyday cultural expectations these men face stress inflated standards of masculinity, self-reliance, total emotional control, and unbound excellence in school and sports. From a humanistic perspective, these young men are asked to internalize societal conditions of worth characterized by perfectionism.

High personal standards are not bad. High standards generally cultivate achievement strivings, good work habits, and strivings for self-improvement (Frost, Marten, Lahart, & Rosenblate, 1990). In “normal perfectionism,” people remain capable of experiencing pleasure and satisfaction in their work (Hamachek, 1978; Timpe, 1989). But perfectionism, like ice cream, comes in flavors, including “self-oriented perfectionism,” “socially prescribed perfectionism,” and “neurotic perfectionism” (Hewitt & Flett, 1991a, b).

Self-oriented perfectionism features exceedingly high (unrealistic) personal standards that are paired with a tendency to criticize oneself harshly. It also includes an unwillingness to accept failure and personal flaws. When the self-oriented perfectionist does experience failure, self-criticism and depression are likely aftershocks.

Socially prescribed perfectionism is rooted in one’s belief that other people hold exaggerated and unrealistic expectations for the self that are difficult, if not impossible, to meet—yet must be met if one is to gain acceptance and approval (Hewitt & Flett, 1991a, b). These

imposed standards are not only external to the self but they are also uncontrollable. Failure to live up to these external-uncontrollable standards therefore ushers forth anxiety, helplessness, and suicidal thoughts (Blatt, 1995).

When relationships (as with parents and teachers) are supportive and nurturing, both self-oriented and socially prescribed dimensions of perfectionism can facilitate constructive strivings (Nystul, 1984). When relationships are not supportive; however, these two types of perfectionism often collapse into “neurotic perfectionism” (Hamachek, 1978), which is essentially the *intense* need to avoid failure. With neurotic perfectionism, no performance is good enough, and even well-done jobs yield little or no satisfaction. Deep feelings of inferiority throw the individual into an endless cycle of excessive striving accompanied by self-criticism, self-attack, and intense negative feelings. In general, neurotic perfectionism is associated with a wide range of psychopathology—depression (Hewitt & Dyck, 1986; LaPointe & Crandell, 1980), suicide (Adkins & Parker, 1996; Delisle, 1986), eating disorders (Brouwers & Wiggum, 1993), and athletes’ “transcendental quest for perfection” (Druss & Silverman, 1979).

Neurotic perfectionism grows out of childhood experiences with disapproving parents whose love is conditional on how well the child behaves and performs (Hamachek, 1978). These parents incessantly urge their child to do better. The child never feels satisfied because his behaviors and performances never hit his parents’ moving target of being good enough to earn approval and love. The result is a constant quest to avoid mistakes. And, typically, the harsh parental standards become internalized into a self-critical voice that uses the withdrawal of self-love as a means of personal punishment. Such a voice of neurotic perfectionism is the antithesis of organismic valuing.

These two parental socialization strategies may increase the child’s temporary compliance, but they also produce worrisome costs in terms of their children’s emotional and academic functioning and well-being. The researchers also tested the outcomes associated with a third parenting strategy, autonomy support (Chapter 6), and found that this socialization strategy of unconditional positive regard produced feelings of valuing their schoolwork and an interest-focused engagement in school, social outcomes consistent with a Rogerian perspective on parenting. Figure 15.3 summarizes the major findings from research comparing the effects of these three parenting styles on children’s motivation, functioning, and well-being (based on Assor & Tal, 2012; Roth et al., 2009; Roth, Kanat-Maymon, & Assor, 2015; Roth & Assor, 2010; Roth & Assor, 2012).

Congruence

Congruence and incongruence describe the extent to which the individual denies and rejects (incongruence) or accepts (congruence) the full range of his or her personal characteristics,

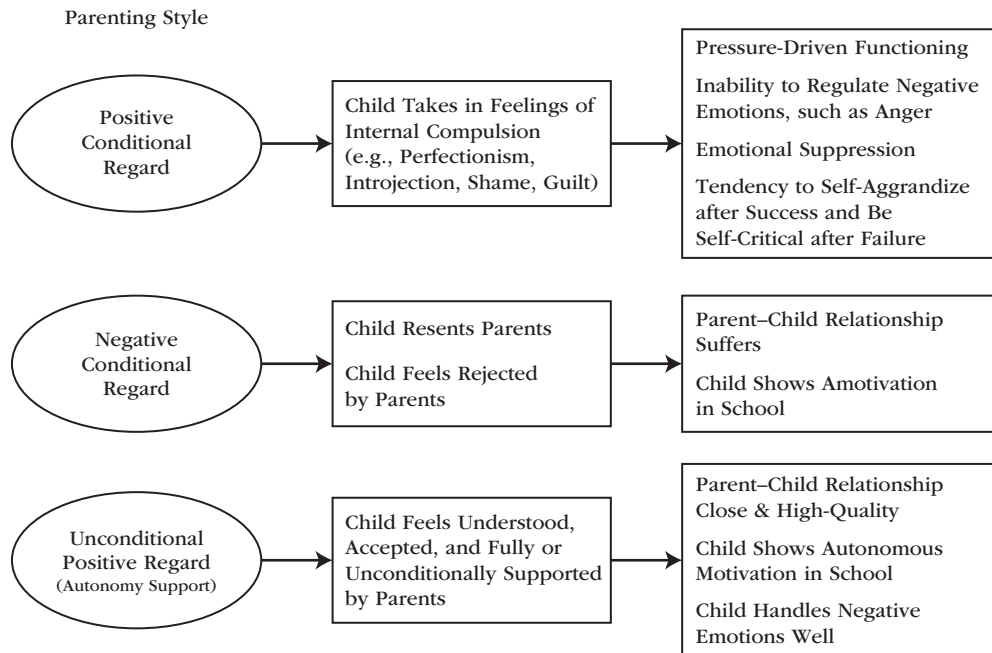


Figure 15.3 Effects of Parenting Style on Children's Motivation, Emotion, and Functioning

abilities, desires, and beliefs (Sheldon & Kasser, 1995). Psychological incongruence is essentially the extent of discrepancy or the difference between “the self as perceived and the actual experience of the organism” (Rogers, 1959). The individual might perceive him- or herself as having one set of characteristics and one set of feelings but then publicly express a different set of characteristics and a different set of feelings. Social facade and psychological conflict between experience-expression reveals incongruence; personal authenticity and psychological harmony between experience-expression reveals congruence.

When people identify with external conditions of worth, they adopt facades. A facade is essentially the social mask a person wears, and it relates to ways of behaving that have little to do with inner guides and much to do with a social front to hide behind (Rogers, 1961). Consider the unauthentic smile (the social facade of acting happy and friendly). Introverts often find themselves wearing the facade of the unauthentic smile on a regular basis, as when they force themselves to smile for hours at a social gathering. Doing so on a regular basis—acting one way yet feeling another way—predicts proneness to maladjustment, including anxiety, depression, self-doubt, and hypoassertiveness (Ford, 1995). Adopting a socially desirable facade carries psychological costs.

Fully Functioning Individual

According to Rogers, when fully functioning, the individual lives in close and confident relationship to the organismic valuing process, trusting that inner direction. Congruence is a constant companion. Furthermore, the fully functioning individual spontaneously communicates inner impulses both verbally and nonverbally. He or she is open to experience, accepts experiences as they are, and expresses those experiences in an unedited manner. The fully functioning individual is authentic. To characterize the moment-to-moment experience of the fully functioning individual, Figure 15.4 illustrates the sequential process of a motive's emergence, acceptance, and unedited expression.

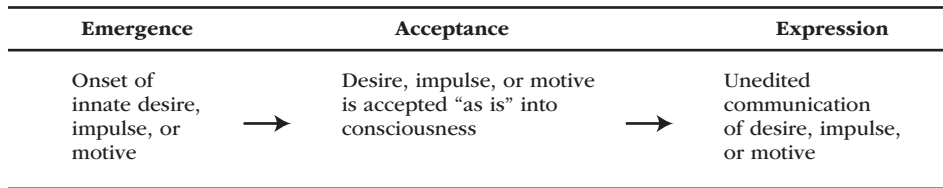


Figure 15.4 Fully Functioning as the Emergence, Acceptance, and Expression of a Motive

Organismic Integration

To advance their optimal development, people possess an inherent, proactive tendency toward personality differentiation (greater complexity), integration (greater wholeness or unity), and personal growth. By learning new things, by stretching existing capacities, and by integrating this new knowledge and these new skills with existing structures, people develop in a positive direction of greater effectiveness, organization, and coherence. The basic idea is that there exists an intrinsic organizational nature to the self, and this tendency toward organismic integration can be socially energized and supported or it can be socially depleted and thwarted by social conditions and relationships. The extent to which the person has achieved organismic integration is a strong marker of his or her sense of psychological well-being. The conclusion is that the organismic integration process is the core means through which development is optimized (Ryan & Deci, 2017).

HUMANISTIC MOTIVATIONAL PHENOMENA

Causality Orientations

People vary in their understanding of what causes and regulates their behavior. Some people adopt an orientation that inner guides initiate and regulate their behavior; others adopt an orientation that social guides and environmental incentives initiate and regulate their behavior. Causality orientations represent a developmentally acquired mindset with respect to exercising autonomy in one's daily life or attending to social controls. Hence, to the extent that individuals habitually rely on internal guides (e.g., needs, interests), they have an *autonomy causality orientation*. To the extent that individuals habitually rely on external guides (e.g., social cues), they have a *control causality orientation*.

The autonomy orientation involves a high degree of experienced choice with respect to the initiation and regulation of behavior (Deci & Ryan, 1985b; Hagger & Chatzisarantis, 2011). When autonomy oriented, people treat their environments as sources of information and opportunity, as they take interest in external events and the inner experiences they generate. Behavior proceeds with a full sense of volition and an internal locus of causality. Needs, interests, and personally endorsed goals initiate the person's behavior, and needs, interests, and self-endorsed goals regulate the decision to persist or quit. In making a choice of college majors or careers to pursue, autonomy-oriented individuals seek out what is interesting and they pay closer attention to their needs and feelings than they do public opinion and environmental contingencies, such as salary and status.

The control orientation involves a relative insensitivity to inner guides, as control-oriented individuals prefer to pay closer attention to environmental incentives and social expectations (Deci & Ryan, 1985b; Hagger & Chatzisarantis, 2011). When control oriented, people allocate their attention to external contingencies, controls, social pressures, and what others think they should do. Behavior proceeds in response to the presence and quality of incentives, rewards, social expectations, and social concerns (e.g., pleasing others). Social demands, such as what *should* be done, and environmental factors, such as pay, status, and extrinsic rewards are very important. When researchers ask control-oriented individuals what they aspire to, the goals that energize and direct their behavior involve the pursuit of financial and material success (Kasser & Ryan, 1993).

The General Causality Orientations Scale (Deci & Ryan, 1985b) measures causality orientations by presenting a series of 12 vignettes (short stories). Each vignette (see below) presents a situation and lists responses to that situation, one of which is autonomy oriented and the other of which is control oriented. (A third scale to assess the impersonal orientation is not discussed here.)

You have been offered a new position in a company where you have worked for some time. The first question that is likely to come to mind is:

I wonder if the new work will be interesting? (Autonomy)

Will I make more money at this position? (Control)

The autonomy causality orientation is a developmental outcome from a personal history of having one's psychological needs satisfied on a consistent basis. Hence, self-determination theory explains the origins and dynamics of causality orientations (Chapter 5; Ryan & Deci, 2017). The autonomy-oriented personality is characterized by intrinsic motivation and identified regulation, because the forces that cause behavior are personal needs and interests (intrinsic motivation) as well as beliefs and values that have been integrated into the self (identified regulation). A person with an autonomy causality orientation uses information to make choices, and this tendency to do so applies generally across many different situations.

The control causality orientation is a developmental outcome from a personal history of having one's psychological needs thwarted on a consistent basis. The control-oriented personality is characterized by extrinsic regulation and introjected regulation, because the forces that cause behavior are environmental rewards and punishers (extrinsic regulation) and beliefs and values that have been forced onto the self (introjected regulation). A person with a control causality orientation uses environmental signals as controls and demands, and this tendency to be controlled by external contingencies applies generally across many different situations (Hagger & Chatzisarantis, 2011).

Causality orientations are both an outcome of development and a predictor of how people react to social conditions (Ryan & Deci, 2017). Developmentally, children who have a history of autonomy support and need satisfaction tend to develop an autonomy causality orientation, while children who have a history of interpersonal control and need frustration tend to develop a control causality orientation. This developmental history leads autonomy-oriented individuals to engage in environments openly, to look for what is interesting and personally meaningful, to be learning oriented and prosocial, to experience high need satisfaction, to have high-quality relationships with others, and to be nondefensive, while it leads control-oriented individuals to focus outwardly from themselves and to be hard-driving, image-based and performance-oriented, and even Machiavellian and prone to gambling and aggression (Baard, Deci, & Ryan, 2004; Gagne, 2003; Hodgins, Yacko & Gottlieb, 2006; Moller & Deci, 2010; Neighbors & Larimer, 2004; Weinstein & Hodgins, 2009; Zuckerman, Oettingen, Peterson, & Seligman, 1988).

Because of its close relationship to self-determination in personality, the autonomy orientation, like self-determination in general, correlates positively with measures of positive functioning, such as self-actualization, ego development, self-esteem, openness to experience, vitality and vigor, attitude-behavior congruence, and acceptance of one's true feelings (Deci & Ryan, 1985b; Koestner, Bernieri, & Zuckerman, 1992; Scherhorn & Grunert, 1988).

Growth-Seeking versus Validation Seeking

When people identify with and internalize societal conditions of worth, they do more than just adopt socially desirable facades. Substitute or compensatory needs emerge to the extent that the individual *needs* social approval—directly or symbolically—during social interaction. Valuing oneself via societal conditions of worth leads people into processes of validation-seeking. For the person who *needs* the approval of others to feel good about him- or herself, fulfilling others' conditions of worth leads

to external validation, whereas failing to live up to others' conditions of worth leads to a perceived lack of personal worth, competence, and likeability.

During social interaction, people who seek external validation often use interpersonal situations to test or measure their personal worth, competence, or likability. That is, other people—one's peers, employers, teachers, romantic partners, and Instagram followers—are seen as potential sources of external validation that can be used as social yardsticks to measure one's personal worth (Dykman, 1998). Positive outcomes generally leave the validation-seeking individual feeling rather accepted and validated. The adjustment problems surface following negative outcomes because these problems imply a lack of personal worth, competence, or likability.

In contrast, growth-seeking individuals center their personal strivings around learning, improving, and reaching their personal potential. Seeking personal growth leads one to adopt a pattern of thinking in which situations and relationships are seen as opportunities for personal growth, learning, or self-improvement. Unlike validation-seeking individuals, however, negative interpersonal outcomes (e.g., exclusion, rejection, failure) fail to usher in adjustment problems because such outcomes identify and communicate information about life areas that can be improved.

The Goal Orientation Inventory (GOI; Dykman, 1998) measures validation-seeking and growth-seeking strivings as relatively enduring personality characteristics. In taking the GOI, the respondent is asked to agree or disagree on whether the item describes how he or she thinks and acts in general:

Instead of just enjoying activities and social interactions, most situations to me feel like a major test of my basic worth, competence, or likability. (Validation-Seeking)

Personal growth is more important to me than protecting myself from my fears. (Growth-Seeking)

The distinction between striving for validation versus growth is important because it predicts vulnerability to mental health difficulties. For instance, the more people strive for validation, the more likely they are to suffer anxiety during social interaction, fear of failure, low self-esteem, poor task persistence, and high depression. In contrast, the more people strive for personal growth, the more likely they are to experience low interaction anxiety, low fear of failure, high self-esteem, high task persistence, and low depression (Dykman, 1998).

This distinction between validation-seeking and growth-seeking is another way of expressing Maslow's distinction between deficiency and growth needs. Seeking validation is the pursuit to restore one's deficiency needs, whereas seeking growth is the pursuit of opportunities to realize one's potential. The distinction also expresses a climate of conditional positive regard versus unconditional positive regard.

Relationships

The extent to which individuals develop toward congruence and adjustment depends greatly on the quality of their interpersonal relationships. At one extreme, relationships take on a controlling, coercive tone as others force their agendas on the individual, pushing him or her toward socially prescribed conditions of worth. At the other extreme, relationships take on a supportive, nurturing tone as others take the individual's perspective and support his or her autonomy. Only the latter relationships nurture the actualizing tendency.

Therapy

In humanistic therapy, a client moves toward health and psychological congruence when his or her therapist brings the following characteristics into the relationship: warmth, genuineness, empathy, acceptance, and confirmation of the other person's capacity for self-determination (Kramer, 1995; Rogers, 1973, 1995). *Warmth* involves care, love, and the process of enjoying spending time with

the other person. *Genuineness* involves being fully present in and open to the relationship's here and now, offering personal authenticity rather than a professional facade of being a therapist, or "the expert." *Empathy* relates to listening to and hearing all the messages the other is sending and also truly understanding and willingly adopting the other's perspective on experience. Empathy occurs as one person enters into the private perceptual world of the other and becomes thoroughly at home in that world. *Acceptance* means that each person in the relationship experiences a basic acceptance and trust from the other (unconditional positive regard). Finally, *confirmation of the other person's capacity for self-determination* acknowledges that the other person is capable and competent and possesses an inherently positive developmental direction. Within a humanistic framework, these five characteristics reflect the quality of an interpersonal relationship and predict the client's direction toward greater personality integration and wholeness.

Helping Others

Relationships become constructive when they help advance each person toward becoming more mature, better integrated, and open to experience (Rogers, 1995). Helping, in the humanistic tradition, does not involve an expert rushing in to solve the problem, to fix things, to advise people, or to mold and manipulate them in some way. Instead, helping involves letting the other person discover, and then be, him- or herself. This last insight is the antithesis of conditions of worth.

Relatedness to Others

One index of healthy psychosocial development is the extent to which the individual accepts social conventions, accommodates the self to the society, internalizes cultural values, cooperates with others, and shows respect for others. Rather than being selfish and socially detached, self-actualizers are actually good citizens. What motivates the willingness to accommodate the self to others is the need for relatedness (Goodenow, 1993; Grolnick, Deci, & Ryan, 1997; Ryan & Powelson, 1991). Interpersonally, relatedness (Chapter 6) refers to a need-satisfying experience in which one feels emotionally connected to, interpersonally involved with, liked by, respected by, and valued by the other. When this is so, relatedness is high and internalization of external regulations occurs willingly (Ryan & Powelson, 1991) and children show volitional social engagement (Furrer & Skinner, 2003).

Freedom to Learn

Rogers continually lamented contemporary educational practices. He did not like the idea of a "teacher" because he felt that the only learning that really mattered was self-initiated learning (Rogers, 1969). Little of consequence occurs when a teacher gives out heaps of information for students to digest. Instead of "teacher," Rogers preferred "facilitator," a term that describes the classroom leader as one who creates and then supports an atmosphere conducive to students' learning. Learning does not follow teaching. Rather, learning follows having one's interests, goals, and aspirations identified and supported. Personal initiative and self-evaluation are of prime importance. Thus, education is not something a teacher can give to (or force on) a student. Rather, education must be acquired by the student through an investment of his energies and interests.²

Self-Definition and Social Definition

Self-definition and social definition are personality processes related to how individuals conceptualize who they are (Jenkins, 1996; Stewart, 1992; Stewart & Winter, 1974). Socially defined individuals

²Golfer Ben Hogan, in a Rogerian spirit, gave the following reply to answer why he had not written another instructional book: "Golf is a game that cannot be taught; it must be learned."

accept external definitions of who they are. Self-defined individuals resist these external definitions and instead favor internal definitions of the self.

Self-definition and social definition processes are particularly instructive in the developing identities of women (Jenkins, 1996). Compared to their socially defined counterparts, self-defined women are more autonomous in their interpersonal relationships (they depend less on others) and social roles (they prefer nontraditional occupations). They organize their goals around self-determined aspirations, including their own personal decisions to get married or not and to have children or not. They are less invested in so-called traditional roles, such as wife and mother. In contrast, socially defined women prefer traditional female roles both at home and at work. They are typically willing to compromise in terms of their own personal plans, college-degree aspirations, career persistence, and relationships. Decisions and experience flow not from the self but, instead, from social sources.

Problem of Evil

Much of the spirit of humanistic psychology follows the questionable assumption that “human nature is inherently good.” But do we as a society dare trust people who follow their inner guides? Freedom and self-determination are fine if human nature is benevolent, cooperative, and warmhearted, but what if human nature is malevolent, selfish, and aggressive? What if human nature is evil, or at least partly evil?

Humanistic thinkers wrestle with the nature of evil (Goldberg, 1995; Klose, 1995). The discussion typically takes one of two forms. On the one hand, the discussion asks *how much* of human nature is evil? This question asks, If family, political, economic, and social systems were benevolent and growth-promoting, then would human evil be reduced to zero or would some residual ferociousness remain? (Maslow, 1987). On the other hand, the discussion tries to understand evildoers (e.g., murderers, rapists, terrorists) who confess to enjoying what they do and express a willingness to continue doing such acts (Goldberg, 1995).

Evil is the deliberate, intentional infliction of painful suffering on another person without respect for his or her humanity or personhood. Rogers’s conviction was that evil was not inherent in human nature. He argued that if caretakers provided enough nurturance and acceptance and if they established a genuine connectedness with those they cared for, then people would inevitably choose good over evil (Rogers, 1982). Hence, human beings behave malevolently only to the extent that they have been injured or damaged by experience. Violence reflects a history of relationships steeped in power and control (Muehlenhard & Kimes, 1999), while altruism reflects a history of relationships steeped in empathy and care (Batson, 1991).

Other humanists see more ambiguity in human nature. They assume that both benevolence *and* malevolence are part of everyone. In this view, under one set of social conditions, the actualizing tendency pairs itself with life-affirming values and adopts constructive ways for relating and behaving; but under another set of conditions, the actualizing tendency pairs itself with malicious values and leads to cruelty and destructive behavior (May, 1982). Thus, a person needs a value system (standards of right and wrong) to support and complement the organismic valuing process. If adults (parents) do not provide a child with a benevolent value system, then that child will grab a value system wherever it is available, be it among equally confused peers on the street, the college fraternity world, or Wall Street (Maslow, 1971).

The recent study of suicide terrorists shows that these individuals were pretty much normal people who were intensely committed to a cause and to a set of values that they saw as greater than themselves (Atran, 2003). If a society cannot provide a benevolent value system for all its members, then it must build safeguards and structures into its social systems to renounce cruelty and to counter impulses to do evil (Bandura, 1999).

Terrorists

A motivational analysis of a terrorist is possible (Kruglanski & Orehek, 2011; Kruglanski et al., 2009). Terrorists, especially suicide bombers, feel that they will achieve something of tremendous significance through their acts of terrorism and suicide. Terrorism and suicide are perceived to be the path to heroism. Experiences of discrimination, personal problems, and humiliation are usually in the past of the would-be terrorist, but he or she believes that these problems can be compensated for—trumped with one swift act—by an act of perceived heroism. The act of perceived heroism is anything that is held in extremely high regard by their community. In terrorism, this “anything” takes the form of self-sacrifice for the sake of the community’s cause. Underlying the act of terrorism is typically a social component (desire to be part of the group), an emotional component (many terrorists are recruited by first being shown films of atrocities being committed against the community), and an ideological component (a set of beliefs that condone violence for the sake of the in-group). It is the ideological component that serves as the person’s acquired malevolent value system.

Malevolent Personality

When people *desire* to act in ways that promote evil, they possess a malevolent personality (Goldberg, 1995). The descent into a malevolent personality is a slippery course of choices (Baumeister & Campbell, 1999; Fromm, 1964; Goldberg, 1995). Evil develops as follows (Staub, 1999):

1. Adults shame and scorn the child such that the child comes to the conclusion that he or she is flawed and incompetent as a human being.
2. The child incubates a negative self-view and comes to prefer lies and self-deceit over critical self-examination.
3. A transition occurs from being a victim to becoming an insensitive perpetrator.
4. The person initiates experimental malevolence.
5. The malevolent personality is forged through a rigid refusal to engage in critical self-examination. The self becomes unwilling to examine itself (e.g., scapegoating is often used to preserve one’s positive self-image; Baumeister & Heatherton, 1996), and intimidation tactics are used to foster the self-aggrandizement that counteracts the need for self-examination (Goldberg, 1995).

Evil’s cause seems to have its origin in enculturation, rather than in human nature. Within a supportive interpersonal climate, people’s choices move them in the direction of greater socialization, improved relationships, and toward what is healthy and benevolent (Rogers, 1982). Therefore, as murder, war, and prejudice continue unabated throughout human history, the culprit might not be the evil in human nature but, alternatively, the sickness in culture. As long as society offers people choices, the possibility remains that its members will internalize a pathological value system that makes possible the descent into evil and the forging of a malevolent personality (May, 1982).³

³A final question asks whether human evil can be healed. One constant in humanistic thinking is that it never condemns without an affirmation of hope. But the malevolent personality is a tough one. Four reasons exist to explain the difficulty in healing evil: (1) the malevolent personality’s closed nature (unwillingness to engage in critical self-examination), (2) the rarity of the malevolent personality’s genuine motivation to change, (3) the odds against the malevolent personality finding those supportive conditions in which motivation for personal change can take root and fulfill itself, and (4) the strong influence of the individual’s choice to change or not (Klose, 1995).

POSITIVE PSYCHOLOGY

Positive psychology looks at people's mental health and the quality of their lives to ask:

- “What could be?” (Seligman & Csikszentmihalyi, 2000)
- “What makes a good life?” (King & Napa, 1998)
- “Is it possible for people to become happy, and if so, how?” (Sheldon, 2004)

Positive psychology seeks to build people's strengths and competencies. It does not ask people to put on rose-colored glasses or adopt Pollyanna as a role model. Instead, positive psychology makes the case that strengths are as important as are weaknesses, resilience is as important as is vulnerability, and the lifelong task to cultivate wellness is as important as is an intervention attempt to remedy pathology.

The fundamental assertion within positive psychology is that good mental health requires more than the absence of mental illness. Many people simply feel empty—not ill but floundering more than flourishing. Positive psychology tries to encourage flourishing—high levels of emotional, psychological, and social well-being that grow out of continuous self-growth, high-quality relationships, and a purposive and meaningful life (Keyes, 2007; Seligman, 2011).

A sampling of the human strengths that comprise the subject matter of positive psychology appears in Table 15.2 (Lopez & Snyder, 2009; Snyder & Lopez, 2002; Peterson & Park, 2009). The building of the strengths in Table 15.2 yield two interrelated outcomes: (1) greater personal growth and well-being and (2) lesser human sickness (e.g., depression, suicide) from ever taking root within the personality.

Happiness and Well-Being

Happiness is a subjective state of being mentally well. People who are happy believe that their lives are going well. They believe that the current events in their lives are going well, and they particularly believe that things are going well in those life domains that are most important to them, such as work, health, or relationships. So, happiness is mostly the presence of positive emotion and the absence of negative emotion. But happiness also has a cognitive component because people not only feel happy or unhappy, but they also step back and evaluate their lives to judge how well or how poorly things are going. This process of stepping back to reflect on how things are going represents life satisfaction (e.g., “I am satisfied with my life.”).

Table 15.2 Personal Strengths Investigated as the Subject Matter of Positive Psychology

| | |
|-----------------|--------------------|
| * Happiness | * Love of learning |
| * Meaning | * Wisdom |
| * Resilience | * Authenticity |
| * Flow | * Open-mindedness |
| * Curiosity | * Autonomy |
| * Optimism | * Forgiveness |
| * Zest | * Compassion |
| * Hope | * Gratitude |
| * Self-efficacy | * Humor |
| * Goal-setting | * Spirituality |

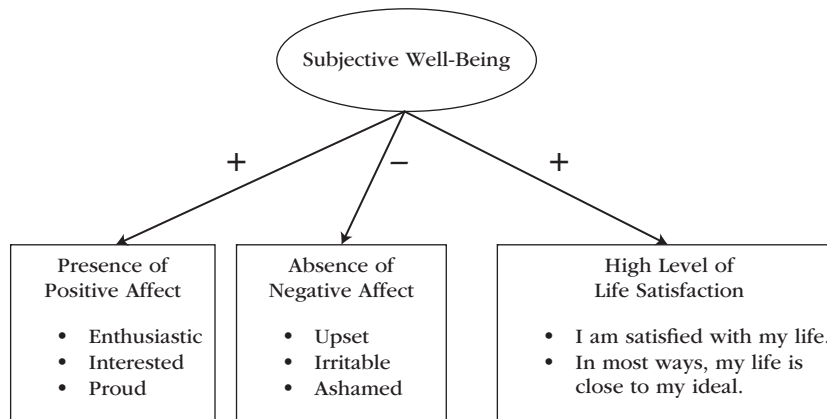


Figure 15.5 Nature and Structure of Subjective Well-Being

Overall, to define happiness, motivation and emotion researchers use the synonym of “subjective well-being” (Diener & Biswas-Diener, 2008; Diener, Emmons, Larsen, & Griffin, 1985; Diener & Seligman, 2004; Diener, Suh, Lucas, & Smith, 1999). The nature and structure of subjective well-being are illustrated graphically in Figure 15.5 (based on Bettencourt & Sheldon, 2001; Sheldon & Elliot, 1999; Sheldon & Niemiec, 2006).

Most people are mildly happy most of the time (Diener & Diener, 1996). This is not because they have a lot of money and material wealth but, rather, because they find their work engaging, are making some progress in the life goals that are important to them, are healthy, and are enmeshed in loving social relationships. Material wealth is mildly correlated with happiness, but the important conclusion about the money-happiness relation is this: “It is generally good for your happiness to *have* money, but toxic to your happiness to *want* money too much” (Diener & Biswas-Diener, 2008, p. 111). Wanting money too much leads to materialism, and materialism is negatively correlated, even toxic, to happiness and subjective well-being (Kasser, 2002). Such a conclusion comes from comparing the subjective well-being of wealthy and impoverished people (Diener, Horwitz, & Emmons, 1985) and from comparing wealthy and impoverished nations (Diener, Diener, & Diener, 1995).

To help make this point clearer, consider the subjective well-being of the following people who face difficult life circumstances: urban poor, people who live in a slum, sex workers, and rural peasants in a third world country (Cox, 2012), homeless migrants in China (Nielsen, Smyth, & Zhai, 2010); people with a mental disorder (e.g., a phobia; Bergsma, Vennhoven, ten Have, & de Graaf, 2011), people with a physical disorder (e.g., multiple sclerosis; Barak & Achiron, 2011), and people who work long hours for low wages (e.g., Beijing taxi drivers; Nielsen, Paritski, & Smyth, 2010). Most of the people studied in these samples were just as happy as the average person. The important insight to be gained from studying the subjective well-being of those who face difficult circumstances is that the causes of happiness are the same in everyone. As these studies show, almost regardless of life circumstances, happiness flows out of subjective appraisals of one’s health, life achievements, feeling safe and secure, the quality of one’s personal relationships, and feeling part of one’s community.

Other research adds these two important points about happiness: (1) subjective well-being is a process—happiness comes from doing, rather than from having and (2) subjective well-being is beneficial to effective life functioning—the happier people are, the better is their future health, work engagement, and relationship satisfaction (Diener & Biswas-Diener, 2008). This latter point is a fundamental one to those who study positive psychology as it supports the conclusion that happiness

does not just feel good but it also has a positive causal effect on life success in terms of health, work, and relationships. The road from life success to happiness turns out to be a two-way street (i.e., reciprocal causation).

Eudaimonic Well-Being

Well-being comes in two forms: subjective well-being and eudaimonic well-being (Ryan & Deci, 2001). While subjective well-being (happiness) is the experience of positive affect, the absence of problems and negative affect, and a judgment of life satisfaction (Figure 15.6), eudaimonic well-being is seeking out challenges, exerting effort, being fully engaged and experiencing flow in what one is doing, acting on one's true values, and feeling fully alive and authentic (Ryan & Deci, 2001). In its essence, eudaimonic well-being is flourishing and self-realization. The consideration of eudaimonia offers a second way to judge one's well-being: (1) being happy and (2) living well.

Aristotle defined eudaimonic well-being as activity spent in the pursuit of excellence, and positive psychologists might suggest that eudaimonia is the active engagement in a meaningful life, even if that active engagement takes one through hardships and long periods of the absence of positive affect episodes. That is because eudaimonia is more about engagement, meaning, and self-realization than it is about happiness per se (Curren, 2013). Previously discussed motivational processes that represent eudaimonic well-being include the fully functional individual (Rogers), self-actualization (Maslow), psychological need satisfaction (Chapter 6), and positive self-functioning (Chapter 11). Those who study eudaimonic well-being do not argue that it is more important than hedonic well-being but, rather, that any analysis of psychological well-being needs to include both happiness and flourishing—that is, both subjective (hedonic) well-being and personal growth (Compton, Smith, Cornish, & Qualls, 1996; Ryan & Huta, 2009; Ryan, Huta, & Deci, 2008).

In thinking about eudaimonic well-being, the question is not so much, Are you happy? as it is, Do you live a meaningful, purposive life characterized by enthusiasm and clear goals? One way to assess level of eudaimonic well-being is the Purpose in Life Test (Schulenberg & Melton, 2010). As shown in Table 15.3, the PLT assesses one part a purposive life and one part an exciting life.

The two key antecedents of eudaimonic well-being are (1) the pursuit of one's life pursuits (personal goals) and (2) the quality of one's close relationships. In terms of what one strives for in life, the pursuit of self-endorsed (as opposed to societally imposed) goals foreshadows eudaimonic well-being (Sheldon & Elliot, 1999; Sheldon & Kasser, 1998). In Chapter 6, self-endorsed goals were referred to as intrinsic goals, while societally espoused strivings were termed extrinsic goals. Self-endorsed, or self-concordant or intrinsic, goals are those that fulfill basic psychological needs (autonomy, competence, relatedness) and are aligned with one's true self. This is so because the subjective experience of autonomy, competence, and relatedness functions as the "psychological nutrients" that underlie personal growth and eudaimonic well-being (Sheldon & Kasser, 1998). Of course, many people do not pursue intrinsic, psychological-need satisfying goals, and instead pursue "wealth, fame, and fortune" (i.e., "the American dream"). While the pursuit of extrinsic, materialistic goals is common, it is nevertheless a functional obstacle to eudaimonic well-being (Kasser & Ryan, 1996). The problem with pursuing wealth, fame, and fortune is that such pursuits have the side effect

Table 15.3 Items Representing the Two Factors of the Purpose in Life Test

| A Purposive Life | An Exciting Life |
|---|---|
| <ul style="list-style-type: none"> • Life purpose • Clear goals in life • Life goal completion | <ul style="list-style-type: none"> • Excitement in living • Newness of each day • Capacity to discover meaning |

of moving people away from the pursuit of intrinsic, psychological-need satisfying goals (Kasser, 2002). The pursuit of materialistic goals also tends to take people away from the relationships in their lives, because people do what they need to do to earn money and fame (e.g., workaholics, materialists), rather than spend time involved in close relationships.

In terms of the quality of one's relationships, the psychological need that most reliably forecasts eudaimonic well-being is relatedness. Relatedness satisfaction explains why the presence of warm, trusting, intimate, and supportive interpersonal relationships in one's life are such solid predictors of eudaimonic well-being (DeNeve, 1999). For most positive psychologists, the pursuit of high-quality relationships is a rock-bottom fundamental path to well-being.

Optimism

Most people are neither realistic nor accurate in how they think. Most of us think we are better than average, and most of us think we are better than average in all sorts of domains (e.g., driving, teaching, honesty, or pretty much anything). Many of us harbor within us a positivity bias. Fortunately, this pervasive tendency to see ourselves in a positive light is associated with well-being and enhanced performance (Taylor, 1989; Taylor & Brown, 1988).

Optimism is basically expecting positive future events in one's life, while pessimism is basically expecting negative future life events (Peterson, 2000; Scheier & Carver, 1985, 1993). Optimists tend to believe that their actions will lead to positive outcomes. Believing this, they tend to exert great effort to attain those sought-after outcomes and use relatively effective, proactive, and preventive problem-solving strategies while doing so (Carver, Scheier, Miller, & Fulford, 2009).

As an illustration, imagine asking a group of 13-year-olds about their optimism, asking "What is your attitude toward your future?", then waiting three decades and finding all these former 13-year-olds again to ask them how their life is going at 43 (Daukantaite & Bergman, 2005). What these researchers found was that adolescent optimism was a rather strong predictor of adult well-being and life satisfaction. These researchers continued to following these participants until age 49 (Daukantaite & Zukauskienė, 2012). So, when their participants were 43, they assessed adult optimism by how much people agree with questions such as:

- Thoughts about my future give me good feelings.
- Even when I find myself in a difficult situation, I am convinced everything will turn out in the end.

These researchers found, once again, that the more optimistic the person was at 43, the more satisfied and happy he or she was at 49.

Of course, wishful thinking can do more harm than good (Oettingen, 1996), and it is often illusory (Freud, 1927). Still, empirical evidence supports the conclusion that people who are optimistic live more worthwhile lives than do people who are not. Optimists experience better psychological and physical health (Scheier & Carver, 1992), undertake more health-promoting behaviors (Peterson, Seligman, & Vaillant, 1998), show greater persistence and more effective problem-solving, and are more socially popular (Peterson, 2000). The reason this is so is because optimism gives people a sense of hope and motivation that their future can indeed be improved, as in increasing school achievement, improving personal health, and growing in an interpersonal relationship (Seligman, 1991). Positive psychologists counter their critics by pointing out the difference between optimism and delusion—arguing that optimism is responsive to reality while delusions are not (Taylor, Collins, Skokan, & Aspinwall, 1989).

Optimism can be taught and learned (Seligman, Reivich, Jaycox, & Gillham, 1995). Optimism is generally taught through the enactment of the cognitive strategy that is the optimistic explanatory style (discussed in Chapter 10). Peterson (2006) argues that learned optimism is hard work

and provides the example of the “hot seat technique.” In this therapeutic strategy, the person creates dozens of index cards, with each card listing a different event capable of pushing the person’s proverbial buttons and leaving him or her feeling burned out and helpless (e.g., the boss ignores you when passing by in the hallway). With each new card (event) the person is to try to identify the immediate, automatic, and pessimistic thoughts that are triggered. Then, just as rapidly, the person is to evaluate the evidence for the pessimistic thought and then generate an alternative and optimistic interpretation of the event (e.g., a negative outcome that is an attributionally unstable and controllable; recall Figure 10.10). Through such cognitive work (reappraisal), people learn to retrain pessimism into optimism.

Meaning

Existentialism is the study of the isolation and meaninglessness of the individual in an indifferent universe. Existentialism has been studied in two ways. One way is the gloom and doom pessimism of Sartre, while another is the optimism and sense of purpose of Victor Frankl. Although Frankl predated positive psychology, his logotherapy (logo = meaning) made popular the contention that, while there was no meaning to life in general, there was great meaning within each individual life.

For Frankl, meaning was a need—a need of discovery and accomplishment that was as fundamental to humanity as was hunger. When confronted with the awareness of the existential vacuum (“my life is meaningless”), Frankl argued that this awareness simply signaled that our will toward meaning was alive and well (just as hunger signals a need for food).

From a positive psychology point of view, it is important to understand meaning and how to cultivate it, because positive psychologists seek to elevate people’s lives beyond “merely tolerable” to deeply vital, fulfilling, and meaningful. A life without meaning is a life that becomes, at best, merely tolerable. A meaningful life is a life with purpose and significance (Steger, 2009). To give today’s activity and struggle a sense of purpose, it helps if the person generates future-oriented goals, such as trying to graduate high school, fall in love during a summer vacation, or go to heaven in the afterlife. Connecting the activity of the day with a future goal effectively endows day-to-day activity with a sense of purpose that it otherwise would not have. Such effort to find meaning in one’s life is a worthwhile endeavor, because meaning is central to adaptive psychological functioning (Hicks & Routledge, 2013), greater psychological adjustment (Heintzelman & King, 2014), better coping with stress and illness (Park, 2010), and living a life that is both healthier (Steger, Mann, Michels, & Cooper, 2009) and longer (Hill & Turiano, 2004).

Significance (i.e., meaning) often comes out of finding importance and value in one’s work/achievement, close relationships, spirituality, or self-transcendence (Emmons, 2003; Lambert et al., 2013; Steger & Frazier, 2005). Self-transcendence can be achieved by having children, being religious and believing in life after death, or by participating in an enduring cause or group, because all three of these beliefs or actions continue to exist after one’s own death and therefore offer a reasonable challenge to the hard, existential realities of death and insignificance by providing the individual with symbolic immortality (i.e., contributing to something that outlives the self) or literal immortality (i.e., afterlife belief). Even a belief in aliens (extraterrestrial life) promotes meaning, because if intelligent life exists on other planets in the universe then human life can be reappraised away from ultimately meaningless to something much closer to cosmically significant (Routledge, Abeyta, & Roylance, 2017).

Purpose and significance can be either found or created. The process of writing a diary or personal reflections, for instance, is often beneficial to discovering and creating meaning in one’s life by telling a story about how individual life events can be integrated into a larger, overarching understanding of personal values, strengths, and meaning (Baumeister & Vohs, 2002; King & Pennebaker, 1996).

Creating meaning is an active process in which people interpret the events in their lives (Taylor, 1983), find the benefit in these events (Davis, Nolen-Hoeksema, & Larsen, 1998), and discover the significance of what happens to them (Park & Folkman, 1997). That is, people create meaning in response to a health crisis (e.g., cancer), the loss of a loved one, academic failure, unemployment, and career burnout (Baumeister & Vohs, 2002). As Frankl often said (paraphrasing), success is not our greatest achievement but, rather, it is facing a difficult life challenge with dignity and integrity. Thus, when thinking about meaning, it helps to break it down to the three interrelated processes of wanting meaning, actively searching for meaning, and having or maintaining meaning (Steger, Frazier, Oishi, & Kaler, 2006).

People who successfully create meaning within a crisis typically do so by first framing the event as a burden or bad event. They then explain how that bad event set in progress a developmental trajectory in which the bad event is ultimately translated into a positive outcome. In doing so, they essentially use the burden as a springboard to create a self endowed with strengths, such as purpose, efficacy, and moral goodness (McAdams, Diamond, de St. Aubin, & Mansfield, 1997). The person with cancer, the person who goes through a divorce, or the person who suffers a difficult loss launches that springboard by understanding that the bad event “was the best thing that ever happened to me” and then by explaining why this is so. In contrast, people who do not counter life’s burdens with purpose, efficacy, and moral goodness (i.e., meaning) are significantly more likely to suffer mental pathology in the wake of the bad event (McAdams, 1993, 1996). From this point of view, the act of creating meaning helps prevent future sickness (e.g., depression), which nicely illustrates the core mission of positive psychology.

Positivity

Positivity represents the positive emotions in life: joy, gratitude, serenity, interest, hope, pride, amusement, inspiration, awe, and love (Fredrickson, 2009). These emotions function differently than do their negative counterparts. Negative emotions such as anger, disgust, and fear grab and intensely narrow our attention toward the aversive environmental object. If we are casually eating a meal and a bug walks onto our plate, we quickly and strongly experience disgust that arrests our full attention to what that bug is doing and how we can get rid of both the bug and the now-spoiled meal. The cluster of positive emotions that represents positivity works differently. Positive emotions are subtle, and they broaden—rather than narrow—attention.

The “broaden-and-build” theory of positivity proposes that positive emotional experiences first broaden the person’s momentary thought-action repertoires, and this greater open-mindedness then leads to actions that build or grow the sort of personal resources listed in Table 15.2 and Figure 15.6 (Cohn & Fredrickson, 2009; Fredrickson, 2009). “Broaden” means that people become more open-minded and more cognitively flexible, as the positive emotionality widens or expands what thoughts come to mind (Isen & Daubman, 1984), thereby enhancing creativity (Isen, Johnson, Mertz, & Robinson, 1985), problem-solving (Isen, Daubman, & Nowicki, 1987), and the urge to explore and play (Isen & Reeve, 2005). This broadening of cognition and experience allows people to engage in the sort of actions that build mental resources (facilitate learning), social resources (facilitate relationships), and physical resources (facilitate health) (Fredrickson, 2009). Gains in mental, social, and physical resources then, in turn, increase the likelihood and frequency at which the person experiences positive emotions in the future.

Figure 15.6 graphically illustrates the processes that take place with the broaden-and-build theory of positive emotions. As you can see, the events in Figure 15.6 depict an upward spiral to positive functioning because positive emotions engender ways of thinking and acting that grow the sort of strengths that make it more likely to experience positive emotions in the first place.

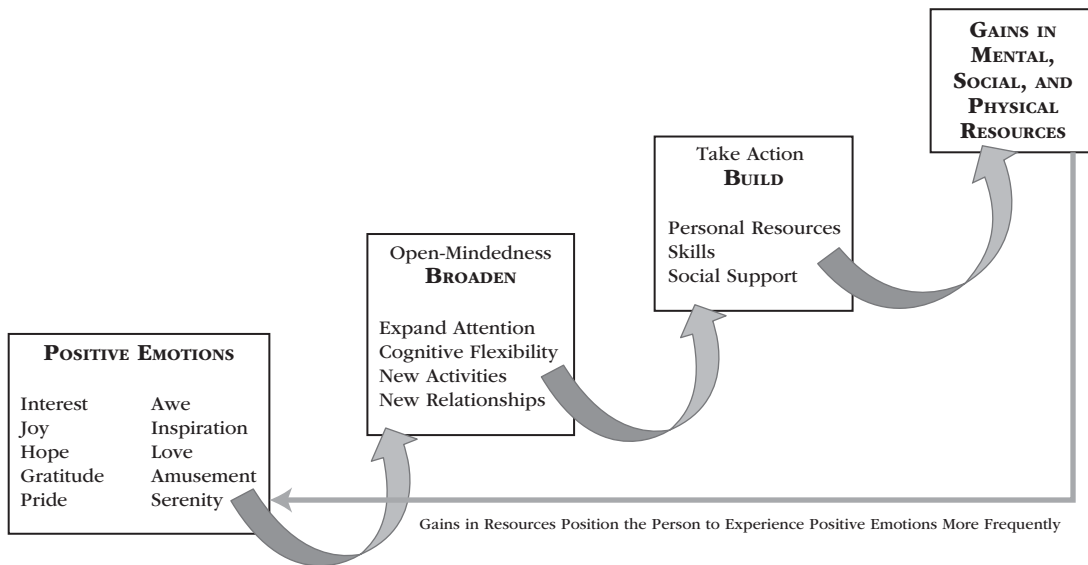


Figure 15.6 The Broaden-and-Build Theory of Positive Emotions

The broaden-and-build theory of positive emotion was created to explain the conditions under which people flourish and grow, rather than flounder and stagnate. To flourish it seems that we need our experiences of positive emotions to outweigh our experiences of negative emotions. In her early work, Fredrickson observed people and groups and noted when flourishing and personal/social growth occurred and when it did not. She found that a stream of experience in which positive emotions occurred at least three times as often as did negative experiences was the tipping point to positivity. For Fredrickson (2009), the three-to-one ratio of positive emotions to negative emotions (the exact ratio was 2.9 to 1) was a necessary condition for positive emotions to accumulate and compound on top of each other in such a way as to create the crucial tipping point at which floundering became flourishing.

Mindfulness

Mindfulness is an open receptive awareness of consciousness in which a person is not-at-all defensive against what is taking place in one's mind at the present moment (Brown & Ryan, 2003). When mindful, one accepts or allows an experience to occur within oneself without resisting, manipulating, or otherwise altering or "fixing" it in some way. It is a relaxed attention that is mixed with heightened observation and awareness of what is happening internally and externally. One benefit of increased mindfulness is that it lessens people's defensive tendencies toward cognitive distortion and suppression (Niemic et al., 2010). Instead of suppressing a thought or distorting a life event, mindfulness opens up an objective and realistic pattern of observation. Such openness to experience then reduces the need for defensiveness and ego threat and therefore paves the way for greater awareness, better coping, and more autonomous self-regulation (Niemic, Ryan, & Brown, 2008).

INTERVENTIONS

Compared to other programs of therapy (e.g., cognitive-behavioral therapy), positive psychology does not yet have a host of validated intervention techniques. To lay the foundation on which to

build such techniques, one group of authors created and recommended the following four “happiness exercises” (Seligman, Steen, Park, & Peterson, 2005):

1. *Gratitude visit.* Write and deliver a letter of gratitude to someone who has been especially kind to you but was never really thanked.
2. *Three good things in life.* At the end of each day, write down three things that went well and identify the cause of each.
3. *You at your best.* Write about a time when you functioned at your best. Reflect on the personal resources that made that functioning possible.
4. *Identify signature strengths.* Identify up to five personal signature strengths (from a list such as the one in Table 15.2) and find a way to use each in a new way.

In testing the benefits of these therapeutic interventions, the general empirical strategy has been to assess the baseline psychological well-being (happiness) and ill-being (depression) of members of the community, have these individuals carry out one of the above exercises for several weeks, and then reassess participants’ psychological well-being and ill-being over time (one week later, one month later, six months later) to see how completing each exercise produced a longitudinal increase in well-being and a longitudinal decrease in ill-being.

Consider the gratitude exercise, which has generally been the most effective of the four exercises listed above (Seligman et al., 2005). One research team asked college students to write letters of gratitude once a week for four weeks (Toepfer, Cichy, & Peters, 2012). They were asked to write nontrivial letters of gratitude (*not* “thank you notes”) that expressed heartfelt appreciation for someone’s valuable and altruistically intended aid. Compared to a control group of participants, those who wrote and delivered letters of gratitude experienced increases in happiness and life satisfaction and decreases in depression. The conclusion seems to be that grateful people tend to be happy people (Watkins, 2008).

Cultivating Hope

Another research team worked collaboratively with Portuguese elementary school students and their teachers and parents to build these children’s psychological strength of hope (Marques, Lopez, & Pais-Ribeiro, 2011). For these researchers, hope is the threefold capacity to conceptualize a goal to seek, generate a specific strategy to attain that goal, and grow the confidence needed to sustain the effort necessary to attain the goal (e.g., set a goal, endorse a mastery belief, and grow self-efficacy, respectively; Snyder, 2002). Students were invited to participate in a five-week “Building Hope for the Future” intervention in which they conceptualized a clear future goal to strive for, generated a range of possible goal-attainment strategies, and learned how to reappraise obstacles into challenges. Children’s hope, life satisfaction, and self-worth were assessed prior to the intervention (a baseline measure), immediately after the intervention ended, six months later, and again 18 months later. As shown in Figure 15.7, the children who participated in the intervention (compared to a control group of children who did not participate in the intervention) showed significant gains in hope, life satisfaction (not pictured), and self-worth. Further, these gains were maintained more than a year after the intervention ended (see T4 scores).

Cultivating Compassion

Compassion is the recognition of suffering in others and the desire to alleviate that suffering (see Chapter 14). Compassion is positively associated with social connectedness and kindness, while it is negatively associated with stress. Recognizing that compassion is a prosocial emotion, one group of researchers developed a compassion cultivation training (CCT) program to help members of a community cultivate a greater capacity for compassion (Jazaieri et al., 2013a, b).

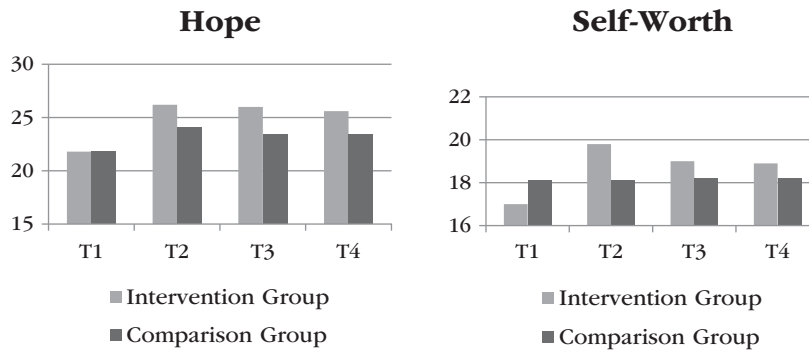


Figure 15.7 Hope and Self-Worth Scores over Time (T1, T2, T3, T4) for Children Who Did and Did Not Participate in the “Building Hope for the Future” Intervention

Compassion can be trained, through mental exercises such as meditation. The week-by-week mental exercises included in the eight-week CCT program were as follows:

- Week 1: Introduction to Meditation-based Mental Exercises
- Week 2: Settling and focusing the mind
- Week 3: Embracing loving-kindness for a loved one
- Week 4: Cultivating compassion for oneself
- Week 5: Embracing loving-kindness for oneself
- Week 6: Developing a greater appreciation for others
- Week 7: Cultivating compassion for others
- Week 8: Practicing compassion

The study recruited 100 middle-aged members from the San Francisco area community and randomly assigned them into either the experimental or control condition. For eight consecutive weeks, participants in the experimental group engaged in a series of mental exercises to focus their attention, embrace living-kindness, and develop greater appreciation and compassion for others. Results from the CCT program appear in Figure 15.8. The upper two figures report the evidence that the intervention produced its intended effect, while the lower two figures report the evidence that the intervention produced positive benefits.

As shown in the upper two panels, participants in the control group reported unchanged levels of compassion for others ($2.94 = 3.05$) and compassion for self ($2.96 = 3.03$), while participants in the experimental group reported significantly higher post-intervention levels of both compassion for others (2.76 increased to 3.29) and compassion for self (3.12 increased to 3.60). As shown in the lower two panels, participants in the control group reported unchanged levels of worry ($52.5 = 53.2$) and emotional suppression ($39.1 = 38.5$), while participants in the experimental group reported significant decreases in both their worry (52.8 decreased to 47.1) and their reliance on suppression as an emotion regulation strategy (40.3 decreased to 34.3).

The benefits gained from these positive psychology “strengths interventions” are somewhere between small and moderate, but never large (Quinlan, Swain, & Vella-Brodrick, 2012). Interventions that ask people to identify their strengths, such as those listed above, generally produced only small benefits. The strength interventions that tend to produce moderate benefits are those that go beyond identifying strengths to also further growing and developing those strengths, as was done in the “Building Hope for the Future” intervention summarized above.

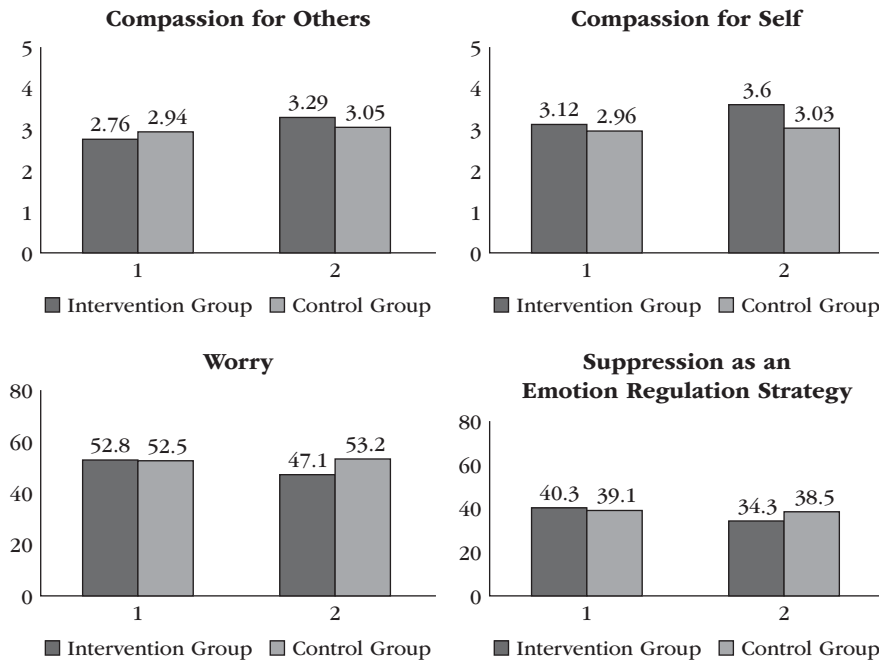


Figure 15.8 Results Showing that the Intervention Was Successful (Two Upper Panels) and Beneficial for Students (Two Lower Panels)

CRITICISMS

After spending a few hours reading Maslow, Rogers, or an article on positive psychology, it is easy to feel good and optimistic about yourself and about human beings in general. For instance, if you read any one of the 15 chapters in Rogers's (1980) *A Way of Being*, you will likely experience a sense of personal enrichment. Still, one must square the optimism of humanism and positive psychology with daily reality to wonder if it is overly naive to conceptualize human nature as intrinsically good. If human nature is something to be nurtured rather than constrained, then one wonders why hatred, prejudice, crime, exploitation, and war persist throughout human history without interruption (Geller, 1982). Perhaps people are not so intrinsically honorable and trustworthy. Perhaps people have within themselves not only positive human potentialities but also the potential to destroy themselves and others (Baumeister & Campbell, 1999; May, 1982; Staub, 1999). One can imagine the potentially adverse consequences of a parent or a government that presupposes benevolent inner guides and therefore gives wide latitude to misbehaving children or citizens (Bandura, 1999). There is some practical truth to the notion that "bad is stronger than good" (Baumeister, Bratslavsky, Finkenauer, & Vohs, 2001). It seems that the humanistic view emphasizes only one part of human nature.

A second criticism is that humanistic theorists use a number of vague and ill-defined constructs. It is difficult to pinpoint precisely what an "organismic valuing process" and a "fully functioning individual" are, for example. Any theoretical construct that evades a precise operational definition must remain scientifically dubious. For this reason, humanistic views on motivation have been harshly criticized (Daniels, 1988; Neher, 1991), and these criticisms were instrumental to the rise and eventual popularity of the more empirically driven (evidence-based) positive psychology.

A third criticism questions how one is to know what is *really* wanted or needed by the actualizing tendency (Geller, 1982). Early learning and socialization can also yield the personal conviction that a way of thinking or behaving is right and natural. For example, if a person is 100 percent confident

that abortion is bad, wrong, and something to be refused, then how is that person to know for sure that such a preference is a product of the organismic valuing process rather than an internalization of societal conditions of worth? Knowledge of right and wrong can be difficult to trace back to the origins of its true source (although enhanced “mindfulness” can help a great deal in this regard). If standards of right and wrong are introjected from infancy, a person can be self-deceived into thinking that his preferences are his own rather than his parents’.

SUMMARY

Humanistic psychology stresses the notions of inherent potentialities, holism, organismic integration, and strivings toward personal fulfillment. In practice, humanistic psychology is about identifying and developing human potential. Positive psychology looks at people’s lives to ask, What could be?, What makes a good life?, and Is it possible for people to become happy, and if so, how? In practice, positive psychology seeks to build people’s strengths so to cultivate psychological wellness.

Self-actualization refers to the full realization and use of one’s talents, capacities, and potentialities. In his need hierarchy, Maslow made the distinction between deficiency needs and growth needs. For Rogers, one fundamental need—the actualizing tendency—subsumed and coordinated all other motives so as to serve the fundamental purpose of enhancing and actualizing the self. With socialization, children learn societal conditions of worth on which their behavior and personal characteristics are judged. As a consequence, all of us live in two worlds—the inner world of the actualizing tendencies and organismic valuation and the outer world of social priorities, conditions of worth, and conditional regard. When people move away from organismic valuing and toward external conditions of worth, they adopt facades and reject or deny personal characteristics, preferences, and beliefs. The terms *congruence* and *incongruence* describe the extent to which an individual denies and rejects personal qualities (incongruence) or accepts the full range of his or her personal characteristics and desires (congruence). The congruent, fully functioning individual lives in close proximity to the actualizing tendency and therefore experiences a marked sense of autonomy, openness to experience, and personal growth.

Causality orientations reflect the extent of self-determination in the personality and concern differences in people’s understanding of what causes and regulates their behavior. Autonomy-oriented individuals experience relatively greater positive functioning than do control-oriented individuals, including greater attitude-behavior congruence and longer-term maintenance of behavioral changes such as losing weight.

A strong commitment to societal conditions of worth leads people into a process of seeking validation from others. In social interaction, validation-seeking individuals strive to prove their self-worth, competence, and likability. Validation-seeking individuals are more vulnerable to experiencing anxiety and depression. In contrast, growth-seeking individuals center their strivings on learning, improving, and reaching personal potential.

Interpersonal relationships support the actualizing tendency in at least five ways: therapy, helping others, relating to others in authentic ways, promoting the freedom to learn (as in education), and defining the self. Relationships characterized by warmth, genuineness, empathy, acceptance, and confirmation of the other person’s capacity for self-determination provide the social climate that optimally supports the actualization tendency. Some humanistic thinkers argue that human nature is inherently good and evil arises only when experience injures and damages the person. Others assume that both benevolence and malevolence are inherent in everyone—that human nature needs to internalize a benevolent value system before it can avoid evil.

Positive psychology looks at people’s mental health and the quality of their lives to ask, What could be? It seeks to build people’s strengths, and it makes the study of these strengths its subject matter. Positive psychology places a particular importance on happiness, which involves both subjective well-being—positive affect, absence of negative affect, life satisfaction—and

eudaimonia—self-realization through the effortful pursuit of authenticity and personal growth. Flourishing is more than the absence of mental illness and depends on well-being that grows out of continuous personal growth, high-quality relationships, and a life characterized by purpose, optimism, meaning, and eudaimonic well-being. Optimism, meaning, positivity, and mindfulness represent four human strengths associated with flourishing and the good life. To cultivate these strengths, positive psychology therapy offers “happiness exercises” such as gratitude visits.

The chapter concludes by offering a number of criticisms of a humanistic understanding of motivation, including Pollyanna optimism, imprecise scientific concepts, and ambiguous origins of inner guides.

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Unconscious Motivation

PSYCHODYNAMIC PERSPECTIVE

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SUMMARY

READINGS FOR FURTHER STUDY

Imagine accompanying your friend on his visit to a psychiatrist. To begin the session, your friend undergoes hypnosis. Once hypnotized, the psychiatrist suggests that your friend brought a newspaper with him to the session and that once he awakes, he will want to read it. In actuality, your friend brought no newspaper. Furthermore, the therapist suggests that upon his awakening, he will look for the newspaper but will be unable to find it. The therapist tells your friend that, after several minutes of searching, an idea will occur to him that another person has taken his newspaper—that the other person has, in fact, stolen it. The therapist also suggests that your friend's discovery will provoke him to anger. Furthermore, the therapist tells your friend to direct that anger toward the thief. Unfortunately for you, the psychiatrist next tells your friend that you are that thief. The therapist tells

your friend that, in his fit of anger, he will first insist and then demand that you return his newspaper. To conclude the hypnosis session, the psychiatrist tells your friend that he will forget that the source of all this (mis)information was actually a series of suggestions given to him by the therapist.

Your friend awakens. He begins to chat leisurely and cheerily about the day's events, and then remarks, "Incidentally, that reminds me of something I read in today's newspaper. I'll show you." Your friend looks around, does not see his newspaper, and begins to search for it. You begin to feel a hint of anxiety because you have been with your friend all day and know that he has neither read nor purchased a paper. Then, suddenly, he turns toward you with piercing eyes. Accusingly, your friend announces that you took his newspaper, and he now wants it back. You are starting to think that coming along was not such a good idea and rather sheepishly say that you know nothing of the newspaper. But your friend persists. He is truly upset. With his anger piqued, your friend forcefully accuses you of stealing his newspaper. He goes further, saying that you took it because you are too cheap to buy one of your own. To substantiate his accusation, he says someone saw you steal his newspaper and told him about it.

This is no longer funny. Your friend *really* believes you stole his newspaper, and he really wants it back.

What does this hypnosis session illustrate (based on Fromm, 1941)? The scenario illustrates that human beings can have thoughts, feelings, and emotions that they subjectively feel are their own but, in fact, have been introjected from another source. Your friend wanted something—to show you an item in the newspaper. He thought something—you stole his newspaper. And he felt something—anger against an alleged thief. But your friend's wants, thoughts, and feelings were not his own in the sense that they did not originate within him. Yet, your friend surely acted as if those wants, thoughts, and feelings were his own. Such a demonstration of the posthypnotic suggestion testifies to the paradox that while we can be sure of what we want, think, and feel, we can also have little idea as to the source of what we want, think, and feel. The whole scenario bears witness to the idea that motivation can arise from a source that lies outside of conscious awareness and volitional intent.

PSYCHODYNAMIC PERSPECTIVE

In contrast to humanism (Chapter 15), the psychodynamic approach presents a largely deterministic and pessimistic image of human nature. Psychoanalysis is deterministic in that it holds that the ultimate cause of motivation and behavior derives from biologically endowed and socially acquired impulses that determine our desires, thoughts, feelings, and behaviors, regardless of whether we like it. Psychoanalysis is further deterministic in that personality changes little after puberty. Thus, many of the motivational impulses of an adult can be traced back to events that took place in childhood. Motivation comes across as something that happens to us, rather than as something we choose or create. Psychoanalysis is also relatively pessimistic in tone because it places the spotlight on sexual and aggressive urges, conflict, anxiety, repression, defense mechanisms, and a host of emotional burdens, vulnerabilities, and shortcomings of human nature. It sees anxiety as inevitable and the collapse of personality as a matter of degree rather than as an exceptional event that happens to only a few of us. We are all dogged by guilt, anxiety is our constant companion, narcissism and homophobia are common, and distortions of reality are *modus operandi*. It is not a pretty picture, Freud said, but it is reality. In his mind, Freud was not a pessimist; he was a realist.

Psychoanalysis is strangely appealing and wonderfully popular. Part of its appeal is that, in reading psychoanalytic theory, the reader comes face to face with some difficult aspects of human nature. According to psychoanalysis, people "are more interested in getting sexual pleasure than they will admit" and people have "blind rages, wild lusts, and parasitic infantile longings" (Holt, 1989). These mysterious aspects of human nature present us with a psychological riddle that pulls in our curiosity. Who can resist wanting to learn more about a theory that reveals the secrets of the

mind—secret crushes and jealousies, fantasies and desires, memories of things done and not done, and all sorts of hidden intrigue and despair?

Part of the appeal of psychoanalysis is that it makes the unconscious its subject matter. Thus, psychoanalysis willingly goes “where no theory has gone before” (to paraphrase *Star Trek*)—into dreams, hypnosis, inaccessible memories, fantasies, and all the hidden forces that shape our motives and behaviors without our awareness and without our consent. In doing so, psychoanalysis offers a chance to talk about a deeply interesting subject matter—the content of our own private subjective experience and why unwanted desires and fears make their home there.

Psychoanalytic Becomes Psychodynamic

Decades ago, the terms *psychoanalytic* and *psychodynamic* could be used as synonyms. A growing number of scholars, however, found themselves in the uncomfortable position of being very interested in the study of unconscious mental processes but not wanting to study those motivational processes within a Freudian framework. They rejected the explanatory power of Sigmund Freud’s dual-instinct theory of motivation (discussed next), for instance, yet they focused on the empirical study of unconscious mental processes, broadly defined as motivation, affect, feelings, needs, motives, and even intuition and hunches. Today, *psychoanalytic* refers to practitioners who remain committed to most traditional Freudian principles. *Psychodynamic*, however, refers more broadly to the study of dynamic unconscious mental processes. In other words, one can study unconscious mental processes (e.g., prejudice, depression, thought suppression, defense mechanisms) inside or outside the Freudian tradition. That is, many researchers study psychodynamic processes without embracing the psychoanalytic approach.

Figure 16.1 graphically communicates the idea that unconscious motivation can be studied inside or outside of a Freudian understanding of the unconscious. Under psychodynamic unconscious motivational processes, researchers study the adaptive unconscious, implicit motives, or priming. As we will see, these three areas of study show that the unconscious is a rich storehouse of motivation and emotion-rich mental activity. One example of the productivity of this research tradition has been the Implicit Association Test (recall Box 7).

Imagine sitting in front of a computer to take the Implicit Association Test (IAT; Greenwald & Farnham, 2000; Lane, Banaji, Nosek, & Greenwald, 2007; <https://implicit.harvard.edu/implicit/demo>).

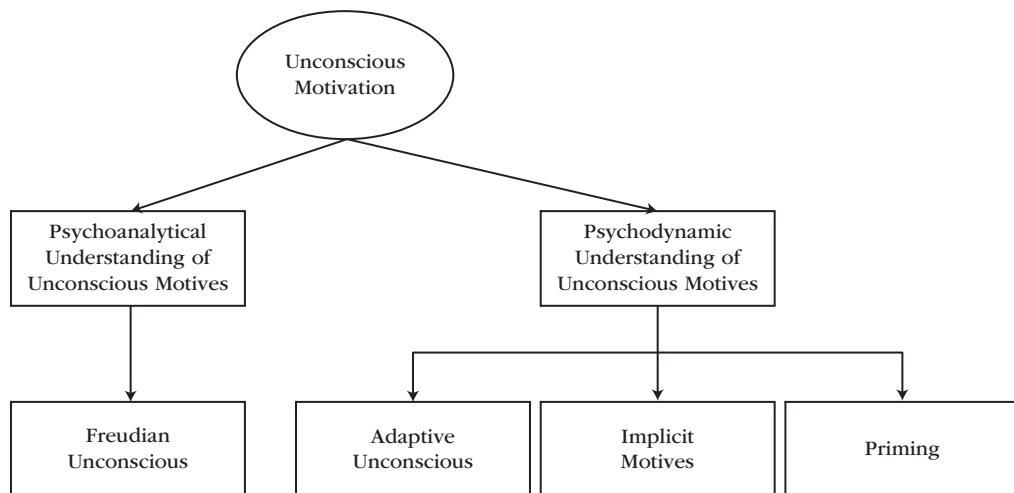


Figure 16.1 Four Ways of Studying Unconscious Motivation

Images appear on the screen, and you are to press a key as rapidly as you can to categorize the stimulus into one category or another. What the IAT is measuring is how long it takes you to make that categorization (latency of response). Specifically, the IAT involves four steps:

1. Press one of two keys (*e* or *i*) for faces of Black or White. For instance, each time a face for the race of White appears, press *e*; each time a face for the race Black appears, press *i*.
2. Press one of two keys (*e* or *i*) for words representing a positive (happy) or a negative (rotten) valence. For instance, each time a positive word appears, press *e*; each time a negative word appears, press *i*.
3. Press *e* each time an image of White or negative word appears; press *i* each time an image of Black or positive appears.
4. Press *i* each time an image of Black or negative word appears; press *e* each time an image of White or positive appears.

Faster key presses for [Black + positive and White + negative] than for [White + positive and Black + negative] in steps 3 and 4 indicate a stronger association of Black than White with a positive valence. Another name for “stronger association” is prejudice. These *automatically activated associations* as measured by the IAT do not correlate with people’s self-report attitudes, and this lack of correspondence suggests a difference between conscious (explicit) prejudice versus unconscious (implicit) prejudice. IAT scores using different sets of images predict a wide range of outcomes, including not only racial prejudice but also gender prejudice, obesity prejudice, age prejudice, nationality prejudice, and several other prejudices. IAT scores also do a good job of predicting brand preferences (e.g., Coke vs. Pepsi, Apple vs. Samsung), political preferences, and even the anxieties and phobias people hold (Greenwald, Poehlman, Uhlmann, & Banaji, 2009).

This chapter largely discusses psychodynamic unconscious motivation in ways that are not necessarily based in traditional Freudian principles. But to understand the foundation of the psychoanalytical perspective, the chapter begins where Freud began—namely, his controversial dual-instinct theory.

Dual-Instinct Theory

A physician by training, Sigmund Freud viewed motivation as regulated by impulsive biological forces. The human body was seen as a complex energy system organized for the purpose of increasing and decreasing its energies through behavior. Some behaviors increased bodily energy (eating, breathing), while other behaviors depleted energy (working, playing). Some bodily energy became mental energy, and the mind needed mental energy to perform its functions (e.g., thinking, remembering). The mind received this psychic energy from the body’s physical energy. The source of all physical energy was biological drive (or instinct), which was a biologically rooted force “emanating within the organism and penetrating to the mind” (Freud, 1915). Hence, instinctual bodily drives explained the source of all motivation.

For Freud, there were as many biological drives as there were different bodily demands (e.g., food, water, sleep). But Freud recognized that there were too many different bodily needs to list. Instead of compiling a comprehensive taxonomy of bodily drives, Freud (1920, 1927) emphasized two general categories: instincts for life and instincts for death.

The first class of instincts—Eros, the life instincts—are the more easily defined of the two. Eros instincts maintain life and ensure individual and collective (species) survival. Thus, instincts for food, water, air, sleep, and the like all contribute to the life and survival of the individual. These are instincts for self-preservation. Instincts for sex, nurturance, and affiliation contribute to the life and survival of the species, a reproductive emphasis Freud borrowed from Darwin (Ritvo, 1990). These are instincts for species preservation. Freud understood the biological drives in the same spirit as the present book

presented thirst, hunger, and sex as core biological needs in Chapter 4. In his discussions of the life instincts, Freud (1917) gave primary emphasis to sex, although he conceptualized sex quite broadly as “pleasure seeking” (including thumb-sucking, being tickled, being rocked, being caressed, being tossed in the air, rhythmic stimulation, masturbation, and sexual contact).

The second class of instincts—Thanatos, the death instincts—push the individual toward rest, inactivity, and energy conservation. An absence of any bodily disturbance could be achieved only through total rest, which was death. In discussing the death instincts, Freud gave primary emphasis to aggression. When focused on the self, aggression manifests itself in self-criticism, sadism, depression, suicide, masochism, alcoholism, drug addiction, and unnecessary risk taking such as gambling. When focused on others, aggression manifests itself in anger, hate, prejudice, verbal insult, cruelty, rivalry, revenge, murder, and war. For example, a hostile joke about an ethnic group represented an expression of the Thanatos (Freud, 1917).

These bodily based instinctual drives toward life and death—sex and aggression—provided the energy to motivate behavior. But people did not just impulsively act on their inborn sexual and aggressive energies. Instead, the individual learned from experience to direct his or her behavior toward need-satisfying aims. Through experience, which is a synonym for “psychosexual development” or “personality,” the individual learned defensive reactions for managing her ever-present sexual and aggressive energies. One’s habitual, learned manner of defense is what Freud meant by the ego. Thus, instinctual drives provide the energy for behavior, while the ego provides its direction—attain biological (instinctual) satisfaction in the most socially appropriate and in the least anxiety-provoking way.

The dual-instinct theory of motivation represents psychoanalysis, circa 1930. Times have changed. Few contemporary psychoanalysts understand motivation as a function of the dual-instinct theory (Kolb, Cooper, & Fishman, 1995; Westen, 1991), and this has been true for several decades (Berkowitz, 1962). No contemporary theorist endorses the validity of the Thanatos.

The goal of psychoanalytic therapy has always been to understand the confusing activities of the unconscious and therefore free the ego to deal with reality. To do so, contemporary psychodynamic therapists focus more and more on cognitive and interpersonal forces, and less and less on biological and intrapersonal forces (Wegner, 1989; Westen, 1998). Contemporary psychodynamic therapists and researchers do not write much about ids and egos, and they do not spend much of their time undertaking archaeological-like expeditions in search of lost memories that will lead to a discovery of the patient’s present-day psychopathology (Kolb et al., 1995; Mitchell, 1988; Wachtel, 1993; Westen, 1998). Instead, the contemporary focus is decidedly interpersonal because it centers on helping people recognize, improve upon, or outright run away from problematic interpersonal relationships (Hazan & Shaver, 1987; Loevinger, 1976; Scharff & Scharff, 1995; Westen et al., 1991). For example, a common problem in psychodynamic therapy is recognizing and then developing the skill necessary to overcome the chronic tendency to involve oneself in intimate relationships with the wrong kind of person (Greenberg & Mitchell, 1983; Westen et al., 1991).

Do the Id and Ego Actually Exist?

Given the preceding discussion on psychodynamics, an interesting question arises: What does contemporary empirical research have to say about the scientific status of the id and ego? Is the human brain organized such that part exists as a cauldron of innate, impulsive, and unconscious desires and emotions, while another part exists as a conscious executive control center that perceives the world and learns and adapts to it?

Subcortical brain structures (e.g., amygdala, striatum) generate automatic and impulsive wants, needs, desires, and urges of pleasure–unpleasure. The subcortical brain makes for a pretty fair id.

The prefrontal lobes of the neocortex performs all those functions that reflect choice, decision making, emotion regulation, self-control, resistance to temptation, suppression of urges, delay of

gratification, and intellectual problem solving. Most of what the cortical brain does is inhibition of other brain structures (Hare Camerer, & Rangel, 2009). The cortical brain makes for a pretty fair ego.

The conscious awareness responsible for executive control over mental life is a relatively new evolutionary development that has been structurally superimposed over a primitive and motivationally rich information-processing system (Reber, 1992). The prefrontal cortical brain projects neural pathways into the subcortical brain structures (see Figure 3.3 for a graphical representation of the cortical and subcortical brain). Unilateral and bidirectional neural interconnections are everywhere (e.g., the amygdala both excites and is inhibited by the prefrontal cortex). Contemporary neuroscientists further confirm that the emotion-generating amygdala is present at birth while the memory-generating hippocampus matures later. Hence, early childhood experiences can leave an emotional memory imprint (implicit learning) without a corresponding episodic (conscious) memory. The picture that emerges corresponds to a pattern of psychodynamics, of forces and counterforces, of excitations and inhibitions, and of subcortical activation and cortical inhibition.

Contemporary Psychodynamic Theory

A lot has changed since Freud. Today, four postulates define psychodynamic theory, research, and practice (Westen, 1998). That these principles are contemporary, as opposed to classically Freudian, is important for two reasons. First, psychodynamic thought has had time to put Freud's insightful propositions to empirical tests to see which postulates do, and which postulates do not, stand the objective tests of time and empirical evaluation. Second, most readers will be more familiar with Freud's classical psychoanalysis than they will be with the contemporary approach, a fact that makes it necessary to review the following core postulates (Westen, 1998):

1. *The Unconscious.* Much of mental life is unconscious.
2. *Psychodynamics.* Conscious and unconscious mental processes operate in parallel and in conflict with one another.
3. *Ego Development.* Healthy development involves moving from an immature, socially dependent personality to one that is more mature and interdependent with others.
4. *Object Relations Theory.* Mental representations of self and others form in childhood that guide the person's later social motivations and relationships.

The first postulate emphasizes the unconscious. It argues emphatically that thoughts, feelings, and desires exist at the unconscious level. Thus, because unconscious mental life affects behavior, people can behave in ways that are inexplicable, even to themselves.

The second postulate emphasizes psychodynamics. It argues that conscious and unconscious motivational and emotional processes frequently operate in parallel with one another—people commonly want and fear the same thing at the same time. It is the rule, not the exception, that people have conflicting feelings that motivate them in opposing ways. Hence, people commonly harbor divergent conscious and unconscious racial (Fazio, Jackson, Dunton, & Williams, 1995) and gender (Banaji & Hardin, 1996) attitudes that produce simultaneous approach and avoidant behavior. That is, a person can be both highly prejudiced (unconsciously) and not at all prejudiced (consciously) at the same time.

The third postulate emphasizes ego development. Contemporary ego psychologists focus on how we developmentally leave behind our immature, fragile, egocentric, and narcissistic beginnings in life to become relatively mature, resilient, empathic, and socially responsible beings.

The fourth postulate highlights object relations theory. It argues that stable personality patterns begin to form in childhood as people construct mental representations of the self and others. Once formed, these beliefs about self and others shape enduring patterns of motivation (relatedness, anxiety) that guide the adult's interpersonal activity and quality of relationships.

THE UNCONSCIOUS

The first core postulate of the contemporary psychodynamic study is the existence and importance of the unconscious. In the early years, scientific psychology had a difficult time with the empirical exploration of the unconscious. After all, if the unconscious is hidden from both private consciousness and public observation, then how can a researcher ever gain access to it? This problem is not an insurmountable one, however, any more than concepts such as electrons are insurmountable to those who study physics. Like unconscious mental processes, electrons and the expanding universe are also difficult, but not impossible, to measure and to study scientifically.

Freud believed that the individual must express strong unconscious urges and impulses, although in a disguised and socially acceptable form. The unconscious is therefore a “shadow phenomenon” that cannot be known directly but can be inferred only from its indirect manifestations (Erdelyi, 1985). Believing the unconscious constituted the “primary process” while consciousness was but a “secondary process,” Freud and his colleagues explored the contents and processes of the unconscious in a number of creative ways, including hypnosis, free association, dream analysis, humor, projective tests, errors and slips of the tongue, and so-called accidents (Exner, 1986; Freud, 1917, 1914, 1920, 1927, 1932; Murray, 1943).

It has been a rocky and emotionally charged 100-year debate, but the conclusion that much of mental life is unconscious is now largely and widely accepted as true (Kahneman, 2011; Westen, 1998; Wilson, 2002). The idea that people have motives and intentions that lie outside of their everyday awareness is readily accepted as true by motivation researchers (Bargh & Chartrand, 1999; Wegner, 1994). Instead of debating whether some of mental life is unconscious, the debate now centers on four different portrayals of the unconscious. The four views can be called the Freudian unconscious, the adaptive unconscious, implicit motivation, and priming. Just as Freud used methods such as hypnosis and slips of the tongue, modern-day psychologists use methods such as subliminal activation, priming, selective attention, unconscious learning, procedural learning, reaction times, and implicit memory to study various aspects of the non-Freudian unconscious (Bargh, Chen, & Burrows, 1996; Greenwald & Farnham, 2000; Kihlstrom, 1987; Lane et al., 2007; Steele & Aronson, 1995).

Freudian Unconscious

The division of mental life into what is conscious and what is unconscious is the fundamental premise of psychoanalysis (Freud, 1927). Freud rejected the idea that consciousness was the essence of mental life and therefore divided the mind into three components: conscious, preconscious, and unconscious. The conscious (i.e., short-term memory, consciousness) includes all the thoughts, feelings, sensations, memories, and experiences that a person is aware of at any given moment in time. The preconscious stores all the thoughts, feelings, and memories that are absent from immediate consciousness but can be retrieved into consciousness with a little prompting (e.g., you are aware of but are not currently thinking about your name or what color ink these words are printed in). The most important, and, by far the largest, component of mental life is the unconscious. The unconscious is the mental storehouse of inaccessible instinctual impulses, repressed experiences, childhood (before language) memories, and strong but unfulfilled wishes and desires (Freud, 1915, 1927).

To illustrate the Freudian view of the unconscious, consider unconscious activity during dreaming. For Freud, daily tensions continually mounted in the unconscious and were vented during dreaming. Because dreams vent unconscious tensions, dreams provided an opportunity for accessing the unconscious’ wishful core. Assuming that the person could recall his or her dreams, dream analysis began by asking the individual to report a dream’s storyline and ended with the therapist’s interpretation of the underlying meaning of the dream. This process was depicted in the 2011 movie *A dangerous method* that featured Carl Jung’s relationship with Sigmund Freud.

A dream's storyline represents its manifest content (its face value and defensive facade), while the symbolic meanings of the events in the storyline represent its latent content (its underlying meaning and wishful core). Because the explicit expression of unconscious wishes would be anxiety-provoking and ego-threatening (and would awaken the dreamer), the unconscious expresses its impulses through the latent and symbolic, rather than the obvious and manifest.

As one illustration, consider the following dream reported by one of Freud's patients (Freud, 1932):

A whole crowd of children—all of her brothers, sisters, and cousins of both sexes—were romping in a field. Suddenly, they all grew wings, flew away, and disappeared.

The patient first had this dream as a young child and continued to have this same dream repeatedly into adulthood. In the dream, all of the patient's brothers, sisters, and cousins flew away, and she alone remained in the field. According to Freud, the dream does not make much sense at the manifest level, and to gain an understanding of its meaning and significance, the analysis must take place within the latent content, using the technique of free association. At the latent level, the dream is (for this particular person) a death wish from the Thanatos. According to Freud, the dreamer is wishing that her brothers, sisters, and cousins would all sprout wings and fly away like butterflies (a child's view of the soul leaving the body upon death), leaving her to the full attention and affection of her parents.¹

Adaptive Unconscious

The empirical study of the non-Freudian unconscious began with a patient with epilepsy. Because of the debilitating severity of his daily seizures, he had his hippocampus removed and, as a result, suffered amnesia. He was brought into a laboratory for several consecutive days to practice a motor skill. As he walked into the laboratory each new day, he had absolutely no memory of being there before, no memory of the people who worked there, and no memory of the motor skill he practiced each day. Still, he showed rather marked improvement in the motor skill day after day. This experiment suggested the existence of an adaptive unconscious.

In his popular book, *Stranger to Ourselves*, Timothy Wilson (2002) described the nature of the adaptive unconscious through the analogy of an airplane. Most of the time, the pilot just puts the plane on automatic pilot. On automatic pilot, the plane does a fine job of attending to its environment, initiating efficient action, setting goals, and keeping a mechanical eye out for signals of danger. Every once in a while, however, the pilot breaks in to make an intentional change or adjustment. The adaptive unconscious runs on automatic pilot as it carries out countless computations and innumerable adjustments during acts such as tying your shoes, driving a car, or playing the piano, and it is the conscious mind that every once in a while jumps into the action to make an intentional corrective adjustment.

¹Before we can conclude that dreams function to vent unconscious wishes, however, we must acknowledge what contemporary research has discovered since Freud. In addition to serving a venting function, dreams further serve a (1) *neurophysiological function* in that the brain stem (not unconscious wishes) produces random neural input for the neocortex to process and make sense of (Crick & Mitchison, 1986); (2) *memory consolidating function* as memories of the day are moved from short-term into long-term memory (Greenberg & Perlman, 1993); (3) *stress-buffering or coping function* by providing an opportunity to pair defense mechanisms against threatening events such as job stress (Koulack, 1993); and (4) *problem-solving function* in that, during dreaming, people process information, organize ideas, and arrive at creative constructions for solving their problems (Winson, 1992). While some evidence supports the idea that dreams provide an outlet for venting wishes and tensions (Fisher & Greenberg, 1996) and that nightmares are associated with anxiety symptoms (Levin & Nielsen, 2007), it is also true that Freud's concept of the dream was too limited. Dreams express unconscious wishes, but dreams are also neurophysiological, cognitive, coping, and problem-solving events that have little to do with unconscious wishes (Fisher & Greenberg, 1996; Levin, 1990; Moffitt, Kramer, & Hoffman, 1993).

An illustrative YouTube video shows New York City commuters climbing a flight of stairs to exit the subway. A surprisingly large number of commuters rather unexpectedly stumble and trip over the same stair. Looking at the flight of stairs, everything seems normal and routine. Still, person after person catches their foot on this one particular stair, stumbles awkwardly, and then looks around in a startled way (e.g., “What the ... ?”). To investigate, engineers measured each step and, sure enough, the stumble-inducing step was ever so slightly higher than the other stairs. The elevated height was not enough for the conscious mind to notice, but it was elevated just enough to cause a disruption in the adaptive unconscious’ automatic task of climbing a flight of stairs. Like the automatic pilot on the airplane, the adaptive unconscious is so skilled at monitoring and carrying out its tasks that we do not even notice that it is doing its job—until we stumble and trip. Then, we need the conscious mind to jump in a figure out what went wrong and what to do about it.

A second illustration of when the adaptive unconscious recruits the conscious mind occurs as you near the end of a moving walkway (e.g., at the airport). Automatically (unconsciously), you intuit if your natural stride will land you safely over the end of the electric walkway or whether you will need a stutter half-step to land comfortably. If you intuit that your natural step will be okay, then the adaptive unconscious lets you continue to listen to music, daydream, or talk with your friend, but if your intuition signals that you might trip and stumble without corrective action, it interrupts what your conscious mind is doing to recruit it to pay attention and solve the problem before the moving walkway ends.

This automatic pilot analogy suggests that the conscious mind is “in charge” while the adaptive unconscious does the low-level janitorial work. But a closer study of the adaptive unconscious shows that it does all the same high-level executive work that the conscious mind does, such as setting goals, interpreting events, and making judgments. The current thinking about the relation between the conscious and unconscious mind is that they do basically the same things, but in two different ways. The conscious mind is an effortful, deliberate, and slow system; the unconscious mind—the adaptive unconscious—is an automatic, instantaneous, and fast system (Kahneman, 2011). For instance, when you try to solve a math problem ($12 \times 16 = ?$), thinking is effortful, deliberate, and slow, but when you glance at someone’s facial expression of emotion, thinking is automatic, instantaneous, and fast. Perhaps the best way to characterize these two ways of thinking is to say that the mind uses two very different strategies to make sense of most any situation (Gladwell, 2005). So, in brief, System 1 is “intuitive judgment,” while System 2 is “deliberate decision-making.”

Table 16.1 lists a dozen defining features of the adaptive unconscious (System 1) and the conscious mind (System 2) (based on Kahneman, 2011):

Table 16.1 Defining Features of the Adaptive Unconscious versus the Conscious Mind

| Adaptive Unconscious (Unconscious Mind) System 1 | Conscious Mind System 2 |
|--|--|
| Automatic | Controlled |
| Intuitive | Analytical, logical |
| Fast, quick | Slow |
| Rash, uncontrollable | Thoughtful, controllable |
| Involuntary, unintentional | Voluntary, intentional |
| Effortless | Effortful |
| Emotional | Rational |
| Efficient, but impulsive | Self-control, self-regulation |
| Thoughts come to mind automatically | Thoughts have to be effortfully produced |
| First impressions | Reflective judgment |
| Not open to education and training | Open to education and training |

Sometimes these two systems process information about the world in ways that complement another (e.g., I had an initial hunch, and the hunch proved to be true), but other times these two systems process information that contradicts the other (e.g., I had an initial hunch, but subsequent information makes me now doubt the validity of that hunch). Most of the time, however, the adaptive unconscious (System 1) is doing the thinking—making judgments, generating feelings, monitoring how things are going, forming impressions, and doing so automatically and effortlessly. For instance, consider all the automatic skilled action you carry out unconsciously (and skillfully!) moment by moment, as in walking, writing, typing, driving, reading people’s faces, reading people’s body language, and so on. Sometimes, however, System 1 needs some help. It finds that help by recruiting System 2 thinking. For instance, you may walk into a room or run into a friend at the bookstore and immediately sense that something is not right. You cannot put your finger on what is wrong or what is different. Your intuition and gut feeling tells you that something is wrong, something is different, something has changed. At that point, System 1 calls in System 2 into to help out—to conduct an effortful, deliberate, Sherlock Holmes-like investigation and analysis to identify just what the adaptive unconscious noticed in the blink of an eye.

The adaptive unconscious is very good at what it does. Because it is so skilled at what it does, this part of the unconscious deserves its “adaptive” moniker. The adaptive unconscious is highly skilled at appraising the environment, setting goals, making judgments, and initiating action, and it can do all these things even while we are consciously thinking about something else. You can carry out a conversation with a friend for instance, while adaptively and unconsciously driving a car, monitoring traffic, listening to music, drinking a beverage, and so forth.

The adaptive unconscious has rather special talents. As one case in point, consider the experiment in which college students were shown only a two-second muted video clip of an instructor and asked to rate his or her teaching effectiveness based on what they saw in that very brief slice of action (Ambady, Bernieri, & Richeson, 2000). Ratings were also taken from the students of these same instructors who had taken a semester-long course. Students who saw only the quickest slice of the instructor’s teaching made just as valid judgments of the instructor’s effectiveness as did students who spent four months in the classroom with the same instructor. These students could not tell you why they made the ratings they did, but their intuition told them something important about how effective or ineffective each instructor was likely to be. People are also able to make accurate judgments of other people’s emotions with only a microsecond of exposure to the person’s facial expressions, despite the fact that they cannot tell you what piece of information they are using to make such judgments (Ekman, 1993). The judgments made by the adaptive unconscious often turn out to be right (Gladwell, 2005).

Implicit Motivation

The best way to introduce the concept of implicit motivation is to contrast it with conscious motivation. Implicit motivation refers to all those motives, emotions, attitudes, and judgments that operate outside a person’s conscious awareness and that are fundamentally distinct from self-report motives, emotions, attitudes, and judgments (McClelland, Koestner, & Weinberger, 1989). Motivational constructs such as goals, intentions, and self-concept represent a conscious, self-report, “explicit” type of motivation. “Implicit,” in contrast, describes motivational processes that are indirect, implied, or not well understood. Unconscious implicit motives are difficult to articulate (difficult to measure with self-report questionnaires) and therefore need to be measured indirectly (Schultheiss & Pang, 2007).

Whereas explicit motives are those linked with learned values and cognitively elaborated aspects of the self-concept (e.g., “I like difficult tasks”; “It is important to persist in the face of difficulty”), implicit motives are linked to emotional experiences. The implicit motives reviewed in Chapter 7 illustrated implicit motivations well (e.g., needs for achievement, affiliation, and power). When we

actually encounter difficult tasks and when we have an opportunity to persist versus quit in the face of difficulty, we experience emotion and affect that predicts our resulting behavior rather well. That is, during difficulty and challenge we feel energized or we feel anxious, and these emotional reactions (rather than our conscious values) predict behavior well.

Implicit motives orient, direct, and select attention such that people automatically attend to environmental events that have emotional associations (McClelland, 1985; Schultheiss & Hale, 2007). That is, those who harbor positive affect associated with achievement orient, direct, and select their attention when the environment offers them an opportunity to do something well and to show personal competence. Similarly, those who harbor positive affect associated with power orient, direct, and select their attention when the environment offers them an opportunity to have an impact on others (recall Table 7.1).

Whether implicit motivational processes predict behavior depends on the degree to which individuals exercise awareness of the events going on around them that affect their motivation and how they respond to these events in terms of thoughts, emotions, and behavior (Bargh, 1997). Hence, mindfulness explains when implicit motives affect behavior, while mindlessness explains when implicit motives fail to affect behavior (Levesque & Brown, 2007). Mindfulness is a receptive attention to and awareness of present events and experiences; it is a noninterference with one's experience in which the person allows inputs to enter awareness in a simple noticing of what is taking place (Brown & Ryan, 2003). With the emotional activation of implicit motivation and with the openness of mindfulness, people are able to regulate their behavior in implicit and productive ways (Brown, Ryan, & Creswell, 2007). This is an important point to make because it shows how conscious and unconscious motivation can potentially work together in a harmonious and productive way (rather than as opposing id versus ego forces).

Priming

Priming is the procedure that evokes an implicit response from an individual upon exposure to a stimulus that is outside his or her conscious awareness. While priming occurs outside of the person's conscious awareness, the prime itself can be delivered unconsciously or consciously. An example of an unconsciously delivered prime might be a word that is flashed so briefly on a computer screen (e.g., 30 ms) that it is not recognized, although it still produces an implicit effect. An example of a consciously delivered prime might occur as the person is asked to judge if a dot appears above or below a word, a word whose content induces an implicit effect (e.g., the words "good" or "pleasant" might produce implicit positive feelings). The word is obviously visible on the screen, but the person is asked to make an explicit judgment about the dot rather than about the word.

Primes that activate a mental representation of a behavior (outside the person's awareness) prepare people to enact behaviors consistent with that mental representation. For instance, the smell of a cleaning solution, the sight of a briefcase, and viewing a library painting lead people to engage in cleaning behavior, competitive behavior, and hushed conversation, compared to the absence of these primes, although participants in these studies reported being unaware of the aroma, briefcase, or painting (Aarts & Dijksterhuis, 2003; Holland, Hendriks, & Aarts, 2005; Kay, Wheeler, Bargh, & Ross, 2004). These findings show that nonconscious primes prepare (i.e., motivate) action.

To appreciate the capacity of a prime to prepare action, consider the cleaning study (Holland et al., 2005). For the primary manipulation, participants completed a routine task in a cubicle with or without the presence of the citrus scent of an all-purpose cleaner. The scent was rather mild; participants did not even notice it or report having any conscious thoughts about cleaning while exposed to the scent. Participants were then moved to a room without any scent. They sat at a table and were instructed to eat a crumbly biscuit. As they did, crumbs fell onto the tabletop. The dependent measure was simply the extent to which the participant kept his or her table clean. Participants in the scent condition cleaned the table more often than did participants in the no-scent control condition.

This study shows that unconsciously activated thoughts can guide a person's behavior in ways that are consistent with those thoughts even as the thoughts remain unconscious and the person is not aware that he is actually cleaning the table or why he is doing so.

Primes influence a range of unconscious motivations. Primes have been shown to activate implicit motives such as power and affiliation (Schultheiss, 2008), outcome expectancies (Custers, Aarts, Oikawa, & Elliot, 2009), autonomous motivations (Hodgins, Yacko, & Gottlieb, 2006), and so forth. For instance, students who were asked to solve language puzzles populated by achievement-related words ("win") outperformed and outpersisted students who were asked to solve the same language puzzles populated by neutral words when both groups worked on a second task unrelated to the language-puzzle task (Bargh et al., 2001). This means that the nonconscious activation of the motivational state promotes behavioral activation if the motivational state itself is associated with positive valence (Aarts, Custers, & Marien, 2008; Custers & Aarts, 2005). That is, primes facilitate motivated action by activating mental representations of action (i.e., the subliminal presentation of the words "exert" and "vigorous"), implicit motivational states, and positive affect; furthermore, these effects occur even though participants are unaware of the presentation of the primes.

Priming produces its impressive effects by offering environmental cues that activate automatic associations the person already holds. This is very different from trying to put a new thought into a person's mind, as advertisers try when they flash subliminal information in a movie (e.g., "Eat popcorn," "Drink Coke"; Morse & Stoller, 1982), or when department stores try to broadcast antishoplifting subliminal messages over the public address system ("If you steal, you will get caught"; Loftus & Klinger, 1992). These subliminal directives do not work. The unconscious might recognize and understand the message in some way, but actually acting on the directive is a whole different matter.

One group of researchers tested the validity of widely available subliminal audiotapes designed to enhance memory or boost self-esteem (Greenwald, Spangenberg, Pratkanis, & Eskenazi, 1991). The audiotapes play subliminal messages (e.g., "You're the best"; "I love you") over relaxing material (e.g., popular music, nature sounds of the forest) to improve the daily listener's self-esteem. The researchers recruited college-age volunteers who wanted to increase their self-esteem or improve their memory. Each volunteer completed initial measures of their self-esteem and memory, listened daily to the audiotape for five weeks, and completed follow-up measures of their self-esteem and memory. In a nutshell, results showed that the audiotapes did not work. Like the "Eat popcorn" and "If you steal, you will get caught" messages, the "I love you" subliminal messages were not processed in a way that affected thoughts or behaviors (Greenwald et al., 1991).

PSYCHODYNAMICS

The second core postulate of the contemporary psychodynamic study is psychodynamics, or the clashing and conflict of thoughts and desires. Freud observed that people often engaged in behavior that they clearly did not wish to do (e.g., ritualized hand washing). Because people sometimes did what they did not want to do, he reasoned that motivation must be more complex than that which follows intentional volition. Conscious volition must have to wrestle with an unconscious counterwill. Following this line of reasoning, Freud (1917) conceptualized people as being of two minds: "The mind is an arena, a sort of tumbling-ground, for the struggle of antagonistic impulses."

People have ideas and wills, but people also have counterideas and counterwills. When the conscious (ego's) will and the unconscious (id's) counterwill are of roughly equal strength, a sort of internal civil war ensues in which neither is completely satisfied. The mental combatants can be diagrammed as follows:

Will → ← Counterwill

Freud's depiction of the human mind was one of conflict—idea versus counteridea, will versus counterwill, desire versus repression, excitation versus inhibition, and cathexis (sexual attraction) versus anticathexis (guilt). This clashing of forces is what is meant by the term *psychodynamics*.

For Freud, psychodynamics concerned the conflict between the personality structures of the id and ego (and superego, which is not discussed here). The motivations of the id were unconscious, involuntary, impulse-driven, and hedonistic, because the id obeyed the pleasure principle: Obtain pleasure and avoid pain and do so at all costs and without delay. The motivations of the ego were partly conscious and partly unconscious, steeped in defenses, and organized around the delay of gratification, because the ego obeyed the reality principle: Hold pleasure seeking at bay until a socially acceptable need-satisfying object can be found.

Today, psychoanalysts point out that wishes, fears, values, goals, emotions, thoughts, and motives are never in harmony, and mental conflict is an inevitable constant (e.g., one wants and fears the same thing, as during a job interview, a marriage proposal, or in contemplating attending tomorrow's motivation class). As a case in point, Drew Westen (1998) points out that children's feelings toward their parents almost *have* to be riddled in conflict since parents provide not only security, comfort, and love but also anxiety, frustration, and unfair discipline.

Repression

When most readers think of psychodynamics, what comes to mind are concepts such as the id, ego, libido, and the Oedipal complex (Boneau, 1990). But, when Freud himself defined psychodynamics, the central concept was repression (Freud, 1917).

Freud envisioned the unconscious as an overcrowded apartment and the conscious as a reception room to prepare oneself for going out into the public world. Repression is the security guard checking each thought's identification card to judge whether it was fit to enter the public world.

Because many motivations reside in the unconscious, people necessarily remain unaware of their own motivations. In addition, people go out of their way to remain unaware of these motivations. This is what Timothy Wilson (2002) meant by the title of his book, *Stranger to Ourselves*. People cannot bear to know things about themselves that contradict either their self-view or public opinion. Awareness of one's true motives would generate conflict with either the ideal self or what society regards to be a respectable person. Thus, repression—the tough-minded security guard who turns down most unconscious thoughts' request to exit the overcrowded apartment—constituted the foundation of psychodynamics (Fromm, 1986).

Repression is the process of forgetting information or an experience by ways that are unconscious, unintentional, and automatic. It is the ego's psychodynamic counterforce to the id's demanding and distressing wishes, desires, ideas, or memories. When unconscious impulses try to surface, anxiety emerges as a danger signal. It is this anxiety that moves the unconscious mind to repression (Freud, 1959; Holmes, 1974, 1990).

Repression is tremendously difficult to study empirically because you have to ask people about things they do not remember. Studying repression is similar to figuring out whether the light stays on after you close the refrigerator door. Research on repression has not yet produced impressive understandings (Erdelyi, 1985, 1990; Erdelyi & Goldberg, 1979), but research on the related mental control process of suppression has been enlightening.

Suppression

The ability to stop a thought is beyond the human mind. No one can stop a thought. Instead, people try to suppress the thought once it has already occurred. Suppression is the process of removing a thought from the mind by ways that are conscious, intentional, and deliberate (Wegner, 1992).

Suppression routinely fails.² When we try to suppress a thought, all we get for our trouble is a lesson that we have less control over our thoughts than we care to admit (Wegner, 1989). Like a balloon held under water, thoughts and emotions can be suppressed for only a while. Consider the psychodynamics of the following:

- Do not *think* about something (today's dental appointment).
- Do not *do* something (go all day without smoking a cigarette).
- Do not *want* something (food while on a diet).
- Do not *remember* something (forget a deeply humiliating experience).

When such thoughts enter our consciousness, our thinking halts itself because the thought precedes something that we wish not to happen. That is, the self-instruction of "don't think about that candy bar" precedes the undesired act of eating the candy bar. With the stream of thought interrupted—halted, in fact—the unwanted thought lingers out there in consciousness all by itself with a spotlight on it. We can suppress that thought for a few seconds, but there is a curious tendency for that thought to pop up again (Wegner, 1989; Wegner et al., 1987).

Consider a laboratory experiment in which college students were asked not to think of a white bear (Wegner et al., 1987). Dan Wegner's decision to ask participants to suppress the thought of a white bear came from a Tolstoy quote in which, for 19th-century Russians, being attacked by a white bear while walking through the countryside was a very real danger, something similar to what contemporary drivers do when they try not to think of the possibility of an oncoming drunk driver suddenly swerving toward them from the other side of the road.

Each participant sat alone at a table with a bell on it (like the old-fashioned umbrella-shaped bells seen on hotel counters). For the first five minutes, the participant said whatever popped into mind. "Free association" was easy. For the next five minutes, however, the participant was asked explicitly not to think of a white bear, but if she did think of the bear, she was to ring the bell as a signal that the unwanted thought had accidentally popped into her mind. During a final five-minute period, the participant once again was to say whatever popped into mind (i.e., free association). In this last period, participants experienced a "rebound effect" in which a lot of bell ringing occurred—certainly more white bears popped to mind after the suppression effort than before it.

These results contradict common sense. Thought suppression not only failed, but it produced an obsessive preoccupation about those white bears (the rebound effect). Paradoxically, suppression did not lead to serenity and peace of mind; rather, it led to obsession.

People rely on thought suppression to control their thoughts and actions in practically all areas of life. People rely on thought suppression for behavioral self-control, as in the effort to abstain from eating certain foods (Polivy & Herman, 1985) or consuming addictive substances (Marlatt & Parks, 1982). People rely on thought suppression to keep a secret (Pennebaker, 1990) or to deceive another person (DePaulo, 1992). People rely on thought suppression for self-control over pain (Cioffi, 1991) and fear (Rachman, 1978). And people use thought suppression to avoid making public the inner workings of their mind and its socially offensive wants, desires, and intentions (Wegner & Erber, 1993).

²Suppressing a thought given by an external source (i.e., another person) is something that lies beyond the capacity of the human mind to suppress. People's own, self-generated intrusive thoughts are a different story (Kelly & Kahn, 1994). The number-one strategy that works with self-generated intrusive thoughts is distraction (Wegner, 1989). With familiar intrusive thoughts, people generally have a rich network of thoughts they have used previously to distract themselves from their unwanted thoughts (Kelly & Kahn, 1994). But a psychodynamic rebound effect always occurs when thoughts are generated by an outside agent, like an experimenter saying not to think of a white bear (Wegner, Schneider, Carter, & White, 1987) or a friend asking you to keep a secret (Lane & Wegner, 1995). With externally induced intrusive thoughts, people lack the experience and strategies they need to suppress them.

People rely on thought suppression for good reasons. Many of our private thoughts would produce public confusion (to put it nicely) if they were allowed to be freely expressed. Thought suppression turns potential social conflict into a private mental struggle of wanted versus unwanted thoughts (Wegner, 1992). We learn quickly that thought suppression can be a social ally in preventing us from just blurting out our thoughts, as sometimes happens when we are stressed (Jacobs & Nadel, 1985) or impaired by drugs or alcohol (Steele & Josephs, 1990).

All this makes for interesting psychodynamics. An unwanted thought pops to mind, so we suppress it. But conscious thought suppression activates an unconscious counter-process. While the conscious mind is busy suppressing the unwelcome thought, the unconscious mind is just as busy searching and detecting for the presence of the thought to be suppressed. The unconscious mind keeps vigilant search over whether those white bears have returned. The unconscious monitoring process ironically keeps the to-be-suppressed thought activated, which is the very thing that the conscious intention was trying to avoid. Continued suppression actually, in time, builds a rather potent counterforce that drives the unwanted thought toward an obsession (e.g., the dieter who tries not to think of food is vulnerable to thinking only about food; Polivy & Herman, 1985). According to Dan Wegner (1989, 1992), the way out of the thought suppression quagmire is to stop suppressing and, instead, focus on and think about the unwanted thought. Paradoxically, only those unconscious thoughts that we welcome into consciousness are we able to forget (Frankl, 1960). If that does not work, distraction (go to a movie, spend time gardening) is the second best strategy to avoid a thought.

Terror Management Theory

The idea of death, the fear of it, haunts the human animal like nothing else; it is a mainspring of human activity—activity designed largely to avoid the fatality of death, to overcome it by denying in some way that it is the final destiny of man.

—Ernest Becker (1973, p. ix)

Human beings live their lives with both a strong urge to live and the cognitive capacity for self-awareness that gives them the knowledge and foresight that ultimately life will end. This knowledge of inevitable death potentially leads to a massive amount of paralyzing anxiety. To avoid living a life of paralyzing anxiety, people utilize defenses that push the problem of death outside of their conscious awareness. This is a summary of terror management theory (Greenberg, Solomon, & Pyszczynski, 1997; Pyszczynski, Solomon, & Greenberg, 2015).

Terror management theory gets its name by equating a “massive amount of paralyzing anxiety” with “terror,” terror that needs to be managed to keep the paralysis at bay. The empirical study of terror management begins by making people aware that they will one day die. This is accomplished by a “mortality salience” manipulation in which participants respond in writing to two open-ended items:

- Briefly describe the emotions that the thought of your own death arouses in you.
- Jot down, as specifically as you can, what you think will happen to you physically as you die and once you are physically dead.

Such awareness of one’s coming mortality rather reliably increases not only death anxiety (Routledge & Juhl, 2010), but it also increases general anxiety and negative affect while simultaneously decreasing life satisfaction, vitality, and meaning in life (Routledge et al., 2010). Death awareness can therefore be problematic to one’s psychological functioning and wellness.

To cope, people think and behave in ways that preserve their perceived immortality, such as the belief in an afterlife and a commitment to (endorsement of) a cultural worldview. Such beliefs buffer mortality anxiety because cultures can be expected to outlive the individual self and because living up to the values and ideals of one’s culture provides an anxiety-buffering boost in one’s

self-esteem (Pyszczynski et al., 2015). Research on terror management theory shows that it is largely an adherence to a cultural worldview that keeps potential terror quiet. That is, belief in an enduring worldview and the self-esteem that one gains from living up to that worldview are antidotes to the terror of death, as if symbolic afterlife trumps physical death.

EGO PSYCHOLOGY

The third core postulate of contemporary psychodynamic study is ego psychology. Freud postulated that all psychical energy originated in the id. At birth, the infant was all id, while the ego was only in the beginning processes of formation (Freud, 1927). Throughout infancy, the ego developed from perceiving instincts to curbing them. The id was force; the ego—the personality—developed to become its counterforce.

The neo-Freudians saw ego functioning as much more. Heinz Hartmann (1958, 1964), the “father of ego psychology,” saw the ego involved in a developmental process that made it increasingly independent from its id origins. For Hartmann, the ego, unlike the id, developed through learning and experience. Learning occurred because the child engaged in a tremendous amount of manipulative, exploratory, and experimental activity (such as grasping, walking, and thinking), all of which provided the ego with information about itself and its surroundings. With feedback from its manipulative, exploratory, and experimental activity, the ego began to acquire ego properties—language, memory, intentions, complex ideas, and so on—that facilitated its ability to adapt successfully to the realities, demands, and constraints of the world. Hartmann conceptualized that because of its ability to learn, adapt, and grow, the mature ego was mostly autonomous from the id. Neo-Freudians studied the motivational dynamics of the “autonomous ego.”

Ego Development

Defining ego is difficult because it is not so much a thing as it is a developmental process. The essence of ego development is a developmental progression toward what is possible in terms of psychological growth, maturity, adjustment, prosocial interdependence, competence, and autonomous functioning (Hartmann, 1958; Loevinger, 1976). From its infantile origins, the ego develops along the following trajectory (Loevinger, 1976):

- Symbiotic
- Impulsive
- Self-protective
- Conformist
- Conscientious
- Autonomous

During the (infantile) symbiotic stage, the ego is extremely immature and constantly overwhelmed by impulses. The ego is symbiotic in the sense that its welfare depends on and is wholly provided for by its caretaker, not by itself. With language, the symbiotic ego begins to differentiate itself from the caretaker but remains extremely immature. In the impulsive stage, external forces (parental constraints, rules), and not the ego per se, curb the child’s impulses and desires. Self-control emerges when the child first anticipates consequences and understands that rules and social expectations exist. The ego then internalizes these consequences, rules, and expectations in guiding its self-protective defensive capabilities. During the conformist stage, the ego internalizes group-accepted rules, and the anxiety of group disapproval becomes a potent counterforce against one’s impulses. The conscientious ego has a conscience, an internalized set of rules, and a prosocial sense of responsibility to others. The conscience functions as a set of internal standards to curb

and counter impulses. The autonomous ego is one in which thoughts, plans, goals, and behaviors originate from within the ego and its resources, rather than from id impulses or from other people's (including society's) demands and pressures (Ryan, 1993). The autonomous ego is self-motivating and self-regulating.

Ego development is important to motivation study in two ways. First, the ego develops to defend against anxiety. If the ego is unable to manage the demands of the id, superego, and environment, then it experiences anxiety. Anxiety is the emotional reaction in which the ego is "obliged to admit its weakness" (Freud, 1964, p. 78). Ego development therefore brings in increasingly mature defenses against anxiety (as discussed in Section "Ego Defense"). Second, the ego develops to empower the person to interact more effectively and more proactively with its surroundings. By growing its sense of competence, the ego gains an increasing capacity not only to deal effectively with environmental challenges but also to generate its own inner motivation and become self-motivating (as discussed in the Section "Ego Effectance").

Ego Defense

The day-to-day existence of the ego is one of vulnerability. The person who makes a group presentation is in a state of vulnerability. The person who goes out on a date is in a state of vulnerability. The person who tries to learn something new is in a state of vulnerability. The person who tries to hold biological desire in check is in a state of vulnerability. The person who tries to do everything his parents and society approve of (satisfy the ego ideal) and tries to resist doing anything his parents and society disapprove of (satisfy the conscience) is in a state of vulnerability. The ego is always in a state of vulnerability.

Through its defense mechanisms, the ego buffers consciousness against potentially overwhelming levels of anxiety originating from conflict with id impulses (neurotic anxiety), superego demands (moral anxiety), and environmental dangers (realistic anxiety). The role that defense mechanisms play in keeping psychopathology at bay appears in Figure 16.2, which shows that conflict emanating from the environment, id, and superego will rather inevitably create anxiety and, eventually, distress and depression if the conflicts are not defended against.

Id demands in the form of biological impulses ("Obtain pleasure, avoid pain!") generate neurotic anxiety; environmental demands ("Adapt to threats and dangers!") generate reality anxiety;

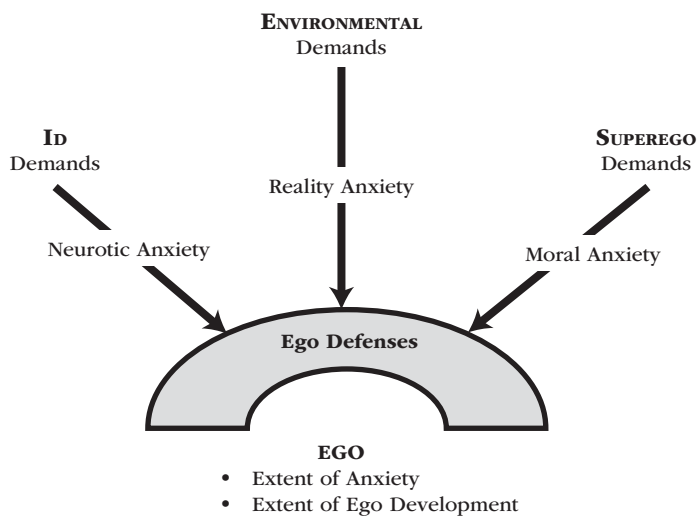


Figure 16.2 Role of Defense Mechanisms in Buffering the Ego from Anxiety-Generating Events

Table 16.2 Ego Defense Mechanisms

| Defense Mechanism | Definition (with <i>example in italics</i>) |
|--------------------|---|
| Denial | Ignoring or refusing to acknowledge an unpleasant external reality. <i>Preoccupation with work so there is no attention paid to the messages of rejection coming from a problematic personal relationship.</i> |
| Fantasy | Imaging omnipotent achievement. <i>Imagining oneself to be a courageous national hero who performs incredible feats to win the admiration of all.</i> |
| Projection | Assigning one's own unacceptable desire or impulse to someone else. <i>The anxiety of "I am failing this course because I am unintelligent" is expressed as "This textbook is stupid" or "The teacher is an idiot."</i> |
| Displacement | Anxiety released onto a substitute object when the actual source is powerful. <i>Discharging aggression toward a father figure (the boss) onto an anxiety-manageable object, such as the household dog. The worker kicks the dog as a substitute for the father figure.</i> |
| Identification | Taking on the characteristics of someone viewed as successful. <i>Seeing the nation adore a celebrity and then adjusting one's appearance (hair style, mode of dress) to be loved and treated like the celebrity.</i> |
| Regression | Returning to an earlier stage of development when anxious. <i>Using baby talk to gain another's nurturance and sympathy to win an anxiety-provoking argument.</i> |
| Reaction formation | Expressing the strong opposite of one's true feelings or motives. <i>Expressing strong optimism ("Everything will work out just fine") in the face of the grim realities of world hunger or interpersonal rejection.</i> |
| Rationalization | Justifying a disturbing or an unacceptable thought or feeling by selecting a logical reason to think or feel that way. <i>Producing an acceptable reason to justify one's hatred for a particular group of people, such as "because they lie and cheat all the time."</i> |
| Anticipation | Forecasting future danger in small steps so to cope with the danger gradually rather than all at once. <i>A person anticipates a probable future loss by dealing with the loss one step at a time—making a list of things to do, practicing what one will say at different stages of the danger, etc.</i> |
| Humor | Capacity to not take oneself too seriously, as in accepting one's shortcomings and talking about it in a socially acceptable way. <i>A cartoon exaggerates an anatomical feature of a high-ranking politician that allows readers to laugh at, yet also feel affection for, the authority figure.</i> |
| Sublimation | Transforming a socially unacceptable anxiety into a socially acceptable and productive source of energy. <i>Lust or sexual impulses are channeled into love, sexual foreplay, or work that is manual, creative, or scientific.</i> |

and superego demands ("Always be perfect!") generate moral anxiety. How much anxiety (or how much "serenity of consciousness") and how much energy the ego has left over for its own development depends on the maturity level of its defense mechanisms, or coping strategies. Without mature defense mechanisms, anxiety from the id, superego (ego ideal, conscience), and environment would overwhelm the ego's capacity to cope, which would result in psychopathology. Fourteen such defense mechanisms appear in Table 16.2, along with a definition and example for each (American Psychiatric Association, 2013; Freud, 1946; Vaillant, 2000).

Defense mechanisms exist in a hierarchical ordering from least to most mature, from least to most adaptive (Vaillant, 1977, 1992, 1993). At the most immature level, defense mechanisms deny reality or invent an imaginary one. Defense mechanisms such as denial and fantasy are the most immature because the individual fails even to recognize external reality. At the second level are defenses such as projection in which the person recognizes reality but copes by casting its

disturbing aspects away from the self. At the third level of maturity are the most common defenses, including rationalization and reaction formation. These defenses deal effectively with short-term anxiety but fail to accomplish any long-term gain in adjustment (because reality is repressed rather than accommodated). Rationalization, for example, temporarily excuses unacceptable desires, but it fails to provide the means for coping with the problem that produced the anxiety in the first place. Level 4 defenses are the most adaptive and mature and include mechanisms such as sublimation and humor. Sublimation accepts unconscious impulses and effectively channels these impulses into socially beneficial outlets, such as the creative energy that produces a painting or a poem (making unconscious impulses both socially acceptable and personally productive). Humor allows the person to look directly at what is painful or anxiety-provoking and deal with it in a socially acceptable way (Freud, 1917; Vaillant, 2000). Still, like all defenses, humor does not transform reality but instead transforms only the perception of reality (to alleviate subjective distress; Lefcourt & Martin, 1986; Nezu, Nezu, & Blissett, 1988).

To test his ideas that the maturity level of one's defenses reflects ego strength and predicts life adjustment, Vaillant (1977) followed the lives of 56 men over a 30-year period. He interviewed each man in his college-age years, and independent testers classified each man as using predominantly mature (levels 3 and 4) or predominantly immature (levels 1 and 2) defense mechanisms as a personal style against distress and anxiety. The study sought to determine how these two groups of men would fare in life, and the research assessed each man's life adjustment 30 years later in four categories: career, social, psychological, and medical.

Ego strength, as indexed by maturity level of defense mechanisms, successfully discriminated men who suffered under the burdens of career, social, psychological, and medical problems from those who did not. Mature defense mechanisms allowed the men to live a well-adjusted life, show psychosocial maturity, find and keep a fulfilling job, develop a rich and stable friendship pattern, avoid divorce, avoid the need for psychiatric visits, avoid psychopathology and mental illnesses, and so on. Immature defense mechanisms, on the other hand, left each man vulnerable to marital conflict, impoverished friendships, and being diagnosed as mentally ill. A second, similar longitudinal study with men and women from diverse backgrounds showed that the maturity level of one's defenses predicted—30 years later—income level, job promotions, psychosocial adjustments, social supports, joy in living, physical functioning, and marital satisfaction (Vaillant, 2000).

One illustration of how mature defense mechanisms promote well-being appears in Figure 16.3 (Cui & Vaillant, 1996). On the horizontal *x*-axis, the graph shows the extent to which adults in the study used mature defense mechanisms. The *y*-axis plots the study's dependent measure, depression. The solid line shows the depression scores for those adults who lived very stressful lives (poverty, physical disability, loss of a loved one). Adults with highly stressful lives and immature defense mechanisms were very likely to experience depression, whereas adults with equally stressful lives but mature defense mechanisms were essentially inoculated against depression. As shown in the dashed line, adults who did not live stressful lives did not experience depression. Thus, depression occurred when people used immature defenses to cope with life stress. When life was not stressful or when adults used mature defenses, depression was avoided. This same conclusion (mature defenses prevent sickness) was also found in preventing posttraumatic stress disorder after combat (Lee, Vaillant, Torrey, & Elder, 1995).

Ego Effectance

Ego effectance concerns the individual's competence in dealing with environmental challenges, demands, and opportunities (Harter, 1981; White, 1959). Effectance motivation begins during infancy as an undifferentiated source of ego energy. With its diffuse energy, emerging properties (e.g., grasping, crawling, walking, language), and acquired skills (e.g., penmanship, social skills),

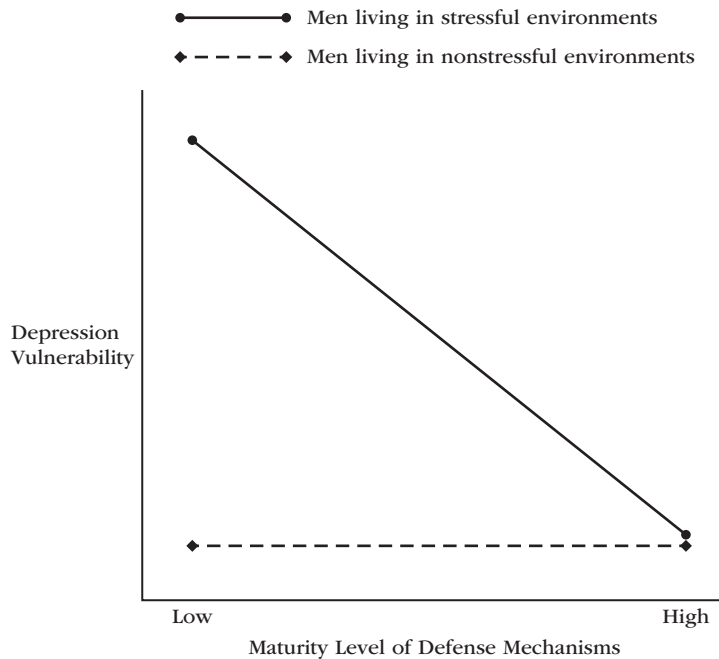


Figure 16.3 Vulnerability to Depression as a Function of Life Stress and Maturity Level of Defense Mechanisms

the ego attempts to deal satisfactorily with the circumstances and stressors that come its way. In the process of adapting and developing, the ego gains the motivational resource of effectance motivation, or the proactive desire to interact effectively with the environment (see Chapter 6).

Ego effectance develops into more than just a defensive coping response to life's demands. As the child exercises skills, he or she begins to learn how to produce successful changes in the environment. The child learns how to use crayons, climb trees, cross streets, hold the attention of adults, feed him- or herself, use a computer, make new friends, ride a bicycle, and a hundred other tasks. When successful, such interactions produce a sense of being effective, a perception of competence, and feelings of satisfaction and enjoyment. The ego aggregates these perceptions and feelings into a general sense of competence. With each successful transaction with the environment (a friend is made, a tree house is constructed), effectance motivation grows. The greater the effectance motivation, the stronger the desire to seek out new and challenging interactions with the environment. Contemporary researchers refer to this desire to seek out and produce intentional changes in the environment as "agency" (Bandura, 2006; Reeve, 2013). Effectance motivation grows into the proactive, initiative-rich desire to intentionally change one's environment and one's life for the better. In this sense, ego effectance functions as "ego offense" (to complement the earlier discussed "ego defense").

OBJECT RELATIONS THEORY

The fourth and final core postulate of the contemporary psychodynamic study is object relations theory. The study of unconscious motivation began with a rather single-minded focus on sexual and aggressive drives. Over time, thinking about unconscious motivation became less biological and more interpersonal. Emphasis on the biological need for sexual gratification, for instance, gradually

gave way to an emphasis on the psychological need for relatedness (Horney, 1939). Central to the object relations theory are the infant's need for attachment to the caregiver and the adult's subsequent interpersonal connectedness to the important people in his or her life.

"Object relations" is an awkward term. But the term is less awkward than it might at first appear to be once its etiology is told. Freud used the word "object" to refer to the gratification target of one's drives. Therefore, object relations theory studies how people satisfy their need for relatedness through their mental representations of and actual attachments to social and sexual objects (i.e., other people). Object relations theory studies how people relate to objects (others) to satisfy their emotional and psychological need for relatedness.

Object relations theory focuses on the nature and the development of mental representations of the self and others and on the affective processes (wishes, fears) associated with these representations (Bowlby, 1969; Eagle, 1984; Greenberg & Mitchell, 1983; Scharff & Scharff, 1995; Westen, 1990). In particular, object relations theory focuses on how childhood mental representations of one's caretakers are captured within the personality and persist into adulthood (Main, Kaplan, & Cassidy, 1985; van IJzendoorn, 1995). What persists into adulthood are mental representations of self and others, such as the following: Am I lovable or unlovable? Am I worthy of other people's attention and care or unworthy of such affection and investment? Are other people warm and caring or selfish and unreliable? Can other people be trusted? Can you depend on others when you need them to be there for you?

Object relations often stress the impact that parental abuse or neglect have on the infant's emerging mental representations of self and others (Blatt, 1994; Luborsky & Crits-Christoph, 1990; Strauman, 1992; Urist, 1980). In essence, the bond between mother (caregiver) and child becomes the child's template for all other mental representations. When one's primary caretaker is warm, nurturing, responsive, available, and trustworthy, the parental object satisfies the infant's need for relatedness, communicates a message of approval, and nonverbally sends a message about relationships that encourages secure and affectionate relations; when one's primary caretaker is cold, abusive, unresponsive, neglectful, and unpredictable, the parental object frustrates the infant's need for relatedness, communicates a message of disapproval, and nonverbally sends a message about relationships that encourages insecurity, mistrust, and anxiety (Ainsworth, Blehar, Waters, & Wall, 1978; Sullivan, 1953).

A positive mental model of self predicts adult levels of self-reliance, social confidence, and self-esteem (Feeney & Noller, 1990; Klohnen & Bera, 1998). Similarly, as shown in Box 16, secure mental models of others predict the quality of one's adult romantic relationships (Feeney & Noller, 1990; Hazan & Shaver, 1987), including whether that person ever marries and, if so, how long that person stays committed to that marriage (Klohnen & Bera, 1998). Alternatively, a childhood of interpersonal traumas (e.g., physical abuse, serious neglect, sexual molestation) and parental psychopathology (e.g., depression, anxiety, substance abuse, violent marital interaction) predict the child's later adulthood dysfunctional relationships (Mickelson, Kessler, & Shaver, 1997).

According to object relations theory, the quality of any one's mental representations of relationships can be characterized by three chief dimensions: (1) unconscious tone (benevolent vs. malevolent), (2) capacity for emotional involvement (selfishness/narcissism vs. mutual concern), and (3) mutuality of autonomy with others.

First, mental representations possess an unconscious affective tone (Westen, 1991). This affective coloring of the object world ranges from understanding relationships as good-benevolent versus bad-malevolent.

Second, mental representations possess an unconscious capacity for emotional involvement (Westen, 1991). This capacity ranges from a narcissistic, exploitive, and unilateral orientation toward relationships to a more mature relatedness based on mutual concern, respect, and eagerness to invest in the relationship.

BOX 16 *Love as an Attachment Process*

Question: Why is this information important?

Answer: To understand how your own early attachments manifest themselves in your current (adult) romantic relationships.

Consider the following three-item, multiple-choice question. Read each statement carefully, and then check the one that best describes you:

- ___ I find it easy to get close to others. I am comfortable depending on others. I am comfortable having other people depend on me. I don't worry about being abandoned, and I don't worry about someone getting too close to me.
- ___ I am somewhat uncomfortable being close to others. I find it difficult to trust others completely. I find it difficult to allow myself to depend on others. I become nervous when anyone gets too close, and I get nervous when others want me to be more intimate with them than I feel comfortable being.
- ___ I find that others are reluctant to get as close as I would like. I worry that others don't really love me or that others don't really want to stay with me. I want to merge completely with others, especially love partners, and this desire sometimes scares people away.

Like object relations theory, attachment theory argues that affectionate bonds develop between infants and their caretakers and that these affectionate bonds, whether positive or negative, carry forward into adulthood, affecting the adult's relationships with lovers (Bowlby, 1969, 1973, 1980). In both object relations theory and attachment theory, infants have a psychological need for relatedness that strongly motivates them to desire close, affectionate bonds with their caregivers. Based on the quality of the care infants receive, they form mental models of how interaction partners relate to them that can be characterized by secure, anxious, or avoidant attachment (Ainsworth et al., 1978).

Which of the three statements above best resonated with your own experience? The three statements characterize, in order, a secure, an avoidant, and an anxious

attachment style. About 55 percent of adults classify themselves as secure, about 25 percent classify themselves as avoidant, and about 20 percent classify themselves as anxious, respectively (Hazan & Shaver, 1987; Shaver & Hazan, 1987).

Cindy Hazan and Phillip Shaver (1987) gave the above multiple-choice question to about 600 adults in the Denver, Colorado, area and asked them also to complete questionnaires about their attachment history, beliefs about love, and experiences with a current partner. The three attachment groups experienced adult romantic love very differently.

Securely attached adults experienced love as a trilogy of friendship, trust, and happiness. They accepted and supported their partner, and their relationships endured over the years.

Avoidantly attached adults experienced love as a fear of intimacy and commitment and reported a marked absence of a positive emotion from the relationship. This is the approach to romantic love heard every 15 minutes on television soap operas, "He is afraid of commitment."

Anxiously attached lovers experienced love as an obsession, a desire for constant reunion and reciprocation, and as an extreme attraction and an extreme jealousy that produced emotional highs and lows. Obsessive preoccupations might play out well in reality TV shows and soap operas, but in real life, they generally lead to "needy, clingy" partners who are troubled by frequent episodes of loneliness and whose relationships are less likely to last than are those of securely attached lovers.

To articulate how infantile experiences color the adult mind, Freud compared Ancient Rome (the child) with modern-day Rome (the adult) (see *Civilization and Its Discontents*, 1958, pp. 15–20). Under the great 21st-century metropolis lie centuries of ruins that have been buried after a repeated series of traumas such as fires, earthquakes, and invasions. Like the metaphor of Ancient Rome, the psychological traumas of infancy, childhood, and adolescence harbor still-smoldering anger, frustration, sadness, craving, longing, and a fear of mistrust and commitment that carry forward into and color subsequent adult mental models of romantic love.

Third, mental representations possess a capacity for the mutuality of autonomy (Urist, 1980). At its higher level (mutuality of autonomy), objects are viewed as having an autonomous existence vis-à-vis one another, and relationships present no risk to the integrity and autonomy of the participants (Ryan, Avery, & Grolnick, 1985; Urist, 1977).

Research on object relations theory underscores the fundamental motivational significance of people's psychological need for relatedness. When this need is nurtured through warm and

responsive care, a person develops positive mental models of him- or herself, of significant others, and of relationships in general. Positive object relations, in turn, enable the person to develop, and to relate to others, in ways that are healthy, growth-oriented, prosocial, and resistant to psychopathology. Relatedness satisfaction allows the person to develop security and positive emotionality with practically all of one's social partners (e.g., friends, coworkers, parents; La Guardia, Ryan, Couchman, & Deci, 2000). When this need for relatedness is frustrated or ignored through cold, rejecting, and unresponsive care, however, a person develops maladaptive mental models that leave him or her vulnerable to psychopathology and to developing primarily defense-oriented and antisocial motivational orientations and interpersonal relationships.

CRITICISMS

Despite its intrigue, the most devastating criticism against a Freudian contribution to the study of human motivation and emotion is that many of his concepts are not scientifically testable (Crews, 1996; Eysenck, 1986). Without scientific tests, such concepts are best taken with skepticism and understood metaphorically rather than as credible scientific constructs. In science, theoretical constructs that have not yet stood the test of objective experimentation must remain guilty until proven innocent, invalid until proven valid. For this reason, psychoanalytic thinkers have spent the last 70 years finding ways to test Freud's ideas and, once accomplished, glean his many ideas into a core set of postulates like the four mentioned earlier in the chapter. Some (but certainly not all) of Freud's ideas have indeed stood the test of empirical validation (Fisher & Greenberg, 1977; Masling, 1983; Silverman, 1976). Other ideas and phenomena have been reinterpreted in ways that do not rely on psychoanalytic concepts (e.g., consider Brown's (1991) analysis of the tip-of-the-tongue phenomenon and Wegner's (1994) analysis of mental control). But on many points about human motivation and emotion, Freud was simply wrong (e.g., his theory of superego formation; Fisher & Greenberg, 1977).

A second criticism is that although psychoanalytic theory is a wonderful interpretive device for events that occurred in the past, it is woeful as a predictive device. For instance, the theory can be used to interpret a dream that has occurred in the past, but the theory is very poor at predicting *a priori* (before the fact) that a person will have a dream specifically about siblings sprouting wings and flying off into the sky (to continue the chapter's earlier example). For the theory to be predictive, it must allow us to anticipate when a person will or will not have a particular type of dream, or use a particular defense mechanism, or achieve a particular level of ego development, or commit suicide, or any other course of action. A scientific theory must be able to predict what will happen in the future. It is hard to trust a theory that explains only the past. It is even harder to apply such a theory in productive ways to real-life settings, such as schools or the workplace.

In the neo-Freudian years, the ego psychologists have taken these criticisms to heart. They respect both the insight of Freud and the criticisms levied against his methods of data collection. The contemporary study of thought suppression, ego development, defense mechanisms, effectance motivation, and object relations (attachments) use more rigorous scientific research methods and strive to build a theoretical framework that values *a priori* prediction over *post hoc* explanations. These trends can be seen even more clearly in contemporary investigations of the adaptive unconscious. The study of priming, for instance, uses experimental research methods (e.g., random assignment of participants into either experimental and control groups), objective dependent measures (e.g., reaction times), and multiple replications using different stimuli and different samples. The subject matter since Freud is pretty much the same (the unconscious), but the research methods are decidedly more objective and scientific.

To illustrate how motivation researchers have used objective scientific methods to advance their understanding of unconscious motivation, consider Timothy Wilson's (2002) reflections on "Freud's genius" and "Freud's myopia":

What Is the Nature of the Unconscious?

Freudian insight: The unconscious is a storehouse of infantile desires that must be repressed and kept out of consciousness because of its anxiety-provoking properties.

Contemporary view: Yes, but the adaptive unconscious is much more. It continually sizes up the world, generates gut feelings, makes judgments, sets goals, learns, and carries out innumerable tasks and procedures automatically and skillfully.

Why Does the Unconscious Exist?

Freudian insight: People have a long list of unacceptable desires, so they develop defenses to avoid knowing what their unconscious motives and feelings are.

Contemporary view: The mind is a well-designed two-tiered system in which the adaptive unconscious does a great deal of automatic thinking and coping, while the conscious mind steps into help when reflective, analytical thinking is needed.

SUMMARY

Psychoanalysis makes for a strangely appealing study. By studying the unconscious and by embracing a rather pessimistic view of human nature, psychoanalysis opens the door to study topics such as traumatic memories, inexplicable addictions, anxieties about the future, dreams, hypnosis, inaccessible and repressed memories, fantasies, masochism, repression, self-defeating behaviors, suicidal thoughts, overwhelming impulses for revenge, and all the hidden forces that shape our needs, feelings, and ways of thinking and behaving that we would probably not want our neighbors to know about us. The subject matter of psychoanalysis strangely reflects what seems to be so popular in contemporary movies (hence, in contemporary society): sex, aggression, psychopathology, revenge, serial killers, and the like.

The father of the psychoanalytic perspective was Sigmund Freud. His view of motivation presented a biologically based model in which the two instinctual drives of sex and aggression (Eros, Thanatos) supplied the body with its physical and mental energies. But a lot has changed since Freud. Today, the following four postulates define psychodynamic theory, research, and practice:

1. *The Unconscious.* Much of mental life is unconscious.
2. *Psychodynamics.* Conscious and unconscious mental processes operate in parallel and in conflict with one another.
3. *Ego Development.* Healthy development involves moving from an immature, socially dependent personality to one that is more mature and interdependent with others.
4. *Object Relations Theory.* Mental representations of self and others form in childhood that guide the person's later social motivations and relationships.

The first core postulate is the existence and importance of the unconscious. The idea that people have motives, desires, intentions, impulses, affect, and feelings that lie outside their everyday awareness is widely accepted today. So the debate mostly concerns how to understand what the unconscious is. The Freudian unconscious is the mental storehouse of inaccessible instinctual impulses, repressed experiences, childhood (before language) memories, and strong but unfulfilled wishes and desires. The adaptive unconscious runs on "automatic pilot" and rather automatically appraises the environment, sets goals, makes judgments, and initiates action, all while we are consciously thinking about something else. It is also very good (very adaptive) at what it does. Implicit motivation is rooted in past emotional associations that lie outside of our conscious awareness. As people encounter

various environmental events (e.g., a challenge, an authority figure), they experience implicitly cued emotional reactions (affect, desire, anxiety) that orients, directs, and selects their attention and produces affectively consistent thoughts, feelings, and behaviors. Priming is the procedure that evokes an implicit response upon exposure to a stimulus that is outside one's conscious awareness (e.g., exposure to a faint citrus aroma promotes unconsciously motivating cleaning behavior).

The second postulate of a contemporary psychodynamic understanding of motivation and emotion is that mental processes operate in parallel with one another, such that people commonly want and fear the same thing at the same time. This is the postulate of psychodynamics. It is the rule, not the exception, that people have conflicting feelings that motivate them in opposing ways. Hence, people commonly harbor divergent conscious and unconscious racial attitudes, gender biases, and love/hate (approach/avoidance) relationships with their parents, their jobs, and practically everything else in their lives.

The third postulate is that of ego development. Healthy development involves moving from an immature, socially dependent personality to one who is more mature and socially responsible. To develop and to overcome immaturity and vulnerability, the ego must gain resources and strengths, including resilient defense mechanisms for coping successfully with the inevitable anxieties of life (e.g., ego defense) and a sense of competence that provides a generative capacity for changing the environment for the better (e.g., ego effectance or ego offense). The maturity level of a person's ego defenses and effectance motivation predicts life adjustment well.

The fourth postulate of a contemporary psychodynamic understanding is that mental representations of self and others form in childhood to guide adult social motivations and interpersonal relationships. This is the postulate of object relations. It argues that lifelong personality patterns begin to form in childhood as people construct mental representations of the self, others, and relationships. Once formed from a developmental history of need support or need thwart, these beliefs form the basis of motivational states (e.g., relatedness, anxiety) that guide the course of the adult's loving and committed versus angry and dysfunctional interpersonal relationships.

The chapter concludes by offering a number of criticisms of a psychodynamic understanding of motivation and emotion. To address these criticisms, contemporary psychodynamic researchers rely on experimental methods, objective dependent measures, and replication of results.

READINGS FOR FURTHER STUDY

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Interventions

APPLYING PRINCIPLES OF MOTIVATION AND EMOTION

- Explaining Motivation and Emotion
- Predicting Motivation and Emotion
- Solving Motivational and Emotional Problems
- Practice Problems

THREE STATE-OF-THE-ART INTERVENTIONS

- Preface
- Intervention 1: Satisfying Psychological Needs
- Intervention 2: Increasing a Growth Mindset
- Intervention 3: Promoting Emotion Knowledge

WISDOM GAINED FROM A SCIENTIFIC STUDY OF MOTIVATION AND EMOTION

The title of the book is *Understanding Motivation and Emotion*. For 16 chapters, the goal has been to increase your capacity to understand and explain human motivation and emotion. That is a fine goal. But now it is time to get practical. Now it is the time to use that understanding to improve people's lives. If you are a motivation and an emotion specialist, the way to improve people's lives is to design and then implement a high-quality intervention to strengthen people's motivational and emotional resources.

An intervention is a step-by-step plan of action to alter some existing condition. In the context of motivation and emotion study, an intervention is a step-by-step plan to enrich people's motivational and emotional resources and, in doing so, promote life outcomes that people care deeply about, such as enhanced engagement, skill acquisition, performance, and well-being (Walton, 2014).

Each chapter presented a number of experimental manipulations used to alter people's motivation or emotion in a temporary or momentary way. The use of short-term experimental manipulations is very important in motivation and emotion study because they provide an ideal context for researchers to test their theoretical predictions about motivation and emotion's antecedents, processes, and consequences. For instance, Table 17.1 lists one exemplary experimental manipulation taken from each of the previous 14 content-based chapters to show how one particular motivation or emotion can be changed on a short-term basis. Collectively, these examples are important because they make the point that motivation and emotion are malleable and can be changed and strengthened.

Successfully demonstrating that motivational and emotional resources are malleable and can be strengthened is important theoretically. From a more practical point of view, however, short-term boosts to people's motivation and emotion are not enough. What is needed in applied settings such as the schools, the workplace, in therapy, in health care, in the home, and on the athletic field, is

Table 17.1 Chapter-by-Chapter Listing of One Featured Experimental Manipulation for Each Chapter

| Chapter | Motivation/Emotion | Experimental Manipulation |
|---------|------------------------|---|
| 3 | Trust | Squirt of the oxytocin hormone via a nasal spray. |
| 4 | Sexual Attraction | Facial metrics of large eyes, small nose, and small chin. |
| 5 | Extrinsic Motivation | Offering a scholarship for making very high grades. |
| 6 | Autonomy | Opportunity for self-direction in pursuit of a personal goal. |
| 7 | Power | Elected into a position of leadership. |
| 8 | Discrepancy | Goal to strive for. |
| 9 | Growth Mindset | Story about how hard Einstein worked to become so smart. |
| 10 | Self-Efficacy | Exposure to a highly competent role model. |
| 11 | Self-Control Depletion | Resisting an attractive temptation for five minutes. |
| 12 | Positive Affect | Receiving a small unexpected gift. |
| 13 | Sadness | Viewing a film about a son at his dad's funeral. |
| 14 | Embarrassment | Committing a social blunder in front of an audience. |
| 15 | Incongruence | Parental negative conditional regard. |
| 16 | Obsession | Keep a secret about the person to whom you are talking. |

a long-term effort to build people's enduring motivational and emotional resources. To produce these changes, one needs to go beyond brief experimental manipulations to employ step-by-step, state-of-the-art intervention programs. In the second half of this chapter, we present three such exemplary interventions, one each to show how needs, cognitions, and emotions, can be strengthened in an enduring way.

APPLYING PRINCIPLES OF MOTIVATION AND EMOTION

It is actually difficult to design a highly effective intervention without first having a solid theoretical framework to guide and inform its design. So, step 1 in designing a successful intervention is to double-check the depth and sophistication of one's theoretical understanding of motivation and emotion. Thus, before presenting specific illustrations of how motivation and emotion theory has been translated successfully into practice, we need to determine our intellectual readiness to design a state-of-the-art intervention. To assess that readiness, consider your current confidence in answering the three following questions:

1. Can you explain why people do what they do?
2. Can you predict in advance how conditions will affect motivation and emotion?
3. Can you apply motivational principles to solve practical problems?

Explaining Motivation and Emotion

Explaining the reasons for behavior—explaining why we do what we do—requires the ability to generate psychologically satisfying answers to questions such as Why did he do that? Why does she want what she wants? Why is he so afraid of or so resistant to a particular course of action? Answers to these questions lie in understanding the source of motivation and how motives, once aroused, intensify, change, and fade.

To explain why we do what we do, Chapter 1 listed 33 motivation theories (see Table 1.5). Each theory provides a piece of the puzzle that is the grand effort to explain human wants, desires, emotions, and strivings. Collectively, these theories address most of the circumstances in which the reader

might be interested. Having an empirically validated theory at your side will help you explain why a particular motivational phenomenon rises, persists, and declines, and which particular conditions in the person, in the environment, in the social context, and in the culture affect that phenomenon. With such a theory in mind, it becomes easier to answer questions such as the following: Why do people set high goals for themselves? Why do people procrastinate when it is so obvious that there is work to be done? Why do people engage in risky behaviors such as parachute jumping or driving really fast? Motivation and emotion theories provide a means to understand and explain why we do what we do and why we want what we want.

Predicting Motivation and Emotion

Can you predict changes in people's motivation and emotion *before they occur*? Can you predict the rise and fall of motivational and emotional states? Which antecedents energize, direct, and sustain particular motivations and emotions? Biological, psychological, environmental, interpersonal, social, and cultural conditions all change, so the question is, Can you predict how changes in these antecedents will produce corresponding changes in motivation and emotion? So, how about a quiz? For each of the 10 different antecedents listed below, check whether a helpful theory comes to mind that allows you to predict what effect that condition might have on a change in motivation and emotion:

- Enduring 24 hours of deprivation (from food, people)
- Exposure to a threatening “anger face”
- Smelling a cleaning solution
- Being promised an expected, tangible reward (e.g., money)
- Watching a highly competent role model
- Being asked to attain a standard of excellence
- Exposure to an unresponsive, uncontrollable environment
- Being mentored by an autonomy-supportive teacher
- Encountering an obstacle to one's goal
- Failing at an easy task in front of others

Solving Motivational and Emotional Problems

The more you understand the principles of motivation and emotion, the greater will be your capacity to find workable solutions to real-world motivational and emotional problems. Solving such problems means empowering people toward more intentional action, optimal experience, positive functioning, goal attainment, positive emotion, a resilient sense of self, and healthy development. It also means helping people reverse or cope with boredom, impulsive urges, habitual experience, counterproductive functioning, goal failure, negative emotion, a fragile sense of self, and maladaptive or dysfunctional development.

Empowering self and others involves identifying, nurturing, and utilizing strengths. Quiz yourself again, this time by asking what you might do to promote the following 10 constructive motivational resources in self and others:

- Resilient self-efficacy beliefs
- Autonomy need satisfaction

- Flow experience
- A fully functioning individual
- Mastery motivational orientation
- Difficult, specific, and self-congruent goals
- Mastery goals
- Ego development
- Joy
- Gratitude

Empowering self and others also involves identifying and repairing weaknesses and vulnerabilities. So, quiz yourself once again by asking what you might do to overcome the following 10 motivational pathologies:

- Restraint release that leads to binge eating
- Hidden costs of reward
- Learned helplessness
- Fixed mindset
- Depleted self-control
- Pessimistic explanatory style
- Thought suppression
- Immature defense mechanisms
- Hubristic pride
- Malicious envy

Practice Problems

Consider the five case studies featured in Box 17. These case studies are offered as a practice opportunity to think about how to solve common motivational and emotional problems. In each case, the person faces a different problem. The child finds it difficult to generate the motivation she needs to engage in an uninteresting, devalued course of action. The salesperson faces the challenge of maintaining her confidence, interest, optimism, and hope in the face of frequent failure and potential burnout. The athlete wants to develop talent and enhance performance, but she is having a difficult time doing so. The patient faces the difficult, energy-demanding task of initiating and maintaining a lifestyle change. And, the student faces the very painful emotional state that comes from feedback that suggests that something is wrong with the self.

In reading each case study, pursue the three earlier listed objectives—namely, explain motivation, predict motivation, and solve the motivational problem. First, attempt to diagnose why the person might currently be experiencing that particular motivational experience. You will not, of course, have access to the important details of his or her situation, but you can still generate a hypothesis or two. Second, once you have a hypothesis to work with, identify the key sources of the person's motivation. What conditions could affect a change in the person's motivation? Third, apply your knowledge of motivation and emotion to generate a productive course of action to help each person generate the energy and direction needed to solve the motivational or emotional issue. To get you started, Table 17.2 offers a sample analysis for the first case study.

BOX 17 *Five Practice Case Studies*

Question: Why is this information important?

Answer: To practice understanding and solving motivational and emotional problems.

Consider five case studies in which a different person faces a motivational or an emotional issue. Use each case study to practice the threefold task of (1) explaining, (2) predicting, and (3) applying motivation and emotion. The goal is to explain why the person's motivation is what it is, predict how his or her motivation would change in response to different events, and propose an intervention to affect the person's motivation and emotion for the better.

Child at Home

A child resists brushing her teeth at night before going to bed. She does not like it. She does not do it. And, when she does brush her teeth, she does it poorly and only half-heartedly (e.g., she just plays with the water). But her parents see high value in her brushing and they encourage her to do so, although they dread having to deal with their daughter's resistance night after night.

Employee at Work

A sales representative for a large company receives a monthly sales quota and is told that everything is fine so long as she meets or exceeds her quota. She feels that she has the skills for the job, but 90 percent of the calls she makes fail to produce a sell. The day-to-day

job experience is one of rejection and frustration. She is thinking about quitting and looking for another job.

Athlete or Musician

An athlete (or musician) performs well, and she very much enjoys her sport (instrument). She loves to play and practice, but she would like to develop her talents further, much further in fact. For some reason, her rate of improvement is laboriously slow and often nonexistent. She wants to become an elite performer, but it does not seem to be happening.

Medical Patient

A physician tells a patient to lose 40 pounds or risk a heart attack. The patient understands the need to make a lifestyle change. Although he knows the physician is right, he is nevertheless pessimistic that he will ever take his physician's advice and make the lifestyle change. Exercise and a healthy diet are just not his thing. He doubts that the lifestyle change is really worth the fuss.

Suffering Student

A student is taking an advanced class. He comes to class, reads the book, and studies his notes—just as he has done in many previous classes. On the mid-term exam, he does so poorly that he feels ashamed of himself. He feels lost and overwhelmed. He has lost all motivation for the second half of the course and wishes he could just stop going.

Table 17.2 Sample Analysis of Case Study #1 from Box 17

Explain Motivation

The child likely sees brushing as an activity that neither enjoyable nor personally important.

The child likely lacks both intrinsic motivation and identified regulation (or value) for brushing, or at least sees alternative activities as things that are more enjoyable and personally important.

Predict Motivation

As long as the child continues to lack intrinsic motivation and/or identified regulation for brushing, brushing will continue to be rare, avoided, procrastinated and if done, then poorly (superficially) done.

Solve the Motivational Problem

1. Adopt an autonomy-supportive motivating style and, after taking the child's perspective and acknowledging the negative affect associated with brushing, explain to the child why you think brushing is such a valuable and worthwhile thing to do (i.e., provide an explanatory rationale).
2. Ask the child why he or she might think brushing has personal utility (i.e., value intervention).
3. Make brushing a fun activity. Perhaps the parents could place a tablet by the sink to play Disney videos (with an attractive role model to emulate) and ask the child to brush for the full 30 seconds that the video plays.
4. Provide the child with a goal or an ideal self to strive for (e.g., brush once per day for seven consecutive days).

THREE STATE-OF-THE-ART INTERVENTIONS

One reason why motivation and emotion study is important is because researchers have been able to design and implement successful interventions to improve people's lives. Below are three success stories in the effort to translate motivation and emotion theory into very practical state-of-the-art intervention programs. The first intervention illustrates a need-based intervention, the second a cognition-based intervention, and the third an emotion-based intervention. Before presenting these three interventions, it will be helpful to make a note of two preliminary observations.

Preface

In practice, motivational states can be supported, neglected, or thwarted. Understanding this, most successful interventions do not try to directly change another person's motivation or emotion (e.g., "Don't be angry, be grateful instead."). Rather most successful interventions take the strategy of trying to change the person's environmental conditions and the quality of his or her relationships. The logic is to leave behind neglectful (unresponsive) or abusive conditions to instead find, create, or offer motivationally and emotionally supportive conditions and relationships. Similarly, it is constructive to consider deeply what the known (evidence-based) antecedent conditions are to the motivational or emotional state that you seek to promote. Once done, then you will be ready to provide these supportive antecedent conditions. That is, if college students are dropping out of school at a high rate because they feel that the school ignores them and their unique concerns, then it would be more helpful to design an intervention to provide students with highly responsive relationships, rather than trying to change some personal characteristics within the students themselves.

A second observation is that a motivational intervention will be more effective when it focuses its effort on supporting people's motivation and emotion rather than trying to increase or decrease some specific outcome, such as achievement, performance, productivity, graduation, weight loss, win-loss record, well-being, and so on (recall the Chapter 1 theme that motivation and emotion are intervening variables). Motivation has a close relation with the outcomes that people really care about, so effective interventions that support motivation are productive but indirect ways to increase or decrease these outcomes. That is, instead of an intervention to increase a student's GPA ("Let's figure out a way to increase your 2.0 GPA to a 3.0"), it would be more profitable to design an intervention to support students' interest in school, encourage students to pursue intrinsic goals, offer students attractive possible future selves, provide an online experience to develop a growth mindset, etc.

On this latter point, it may be a good idea to review the basic motivational framework offered in Chapter 1 (see Figure 1.4) before reading the three interventions below. Most of what happens during an effective intervention is to provide a supportive social context and high-quality interpersonal relationships. So what gets manipulated, changed, or developed in an effective intervention can be seen in the box on the far left-hand side of Figure 1.4.

Intervention 1: Satisfying Psychological Needs

Here is an example of a needs-based intervention. In many classrooms, students receive instruction in a way that ignores their psychological needs. That is, teachers ask students to write papers, complete projects, and learn new skills in ways that leave students' psychological needs dormant. As featured in Chapter 6, students—like everybody else—possess the three psychological needs for autonomy, competence, and relatedness, and these three needs energize and vitalize their classroom engagement and learning. Recognizing this, one group of researchers developed an intervention program to help teachers develop a motivating style capable of supporting students' psychological needs. Specifically, the researchers developed, implemented, and tested the merits of an autonomy supportive intervention program (ASIP; Cheon, Reeve, & Moon, 2012; Cheon, Reeve, & Song, 2016).

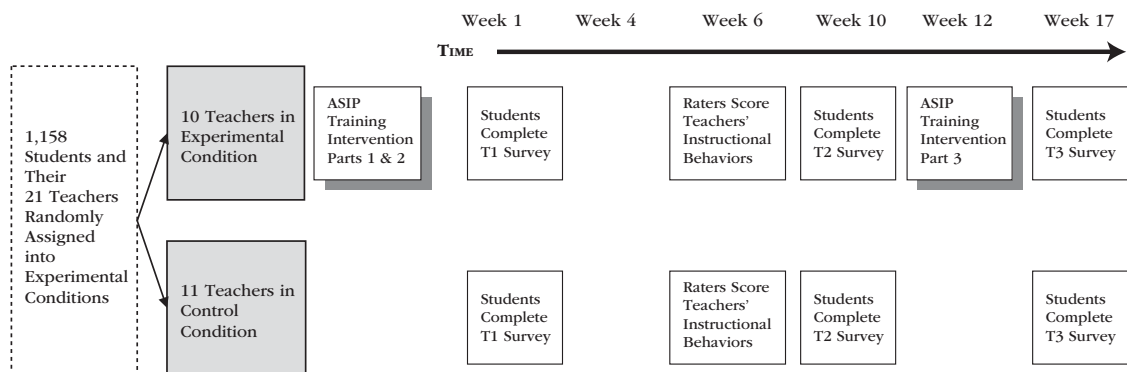
What autonomy-supportive teachers do during instruction is take their students' perspective, listen empathically to what students say, and utilize instructional strategies such as nurturing inner motivational resources, teaching in students' preferred way, providing explanatory rationales, using invitational language, displaying patience, and acknowledging and accepting students' expressions of negative affect. These are not commonly occurring classroom events, but these instructional strategies can be learned. The step-by-step intervention program designed to help teachers learn the "how to" of autonomy-supportive teaching appears on the lower half of Figure 17.1. The experimentally designed, longitudinally based empirical study implemented to test the validity and efficacy of the intervention appears on the upper half of Figure 17.1.

The study recruited 21 experienced middle and high school Korean teachers and randomly assigned them into either the experimental or control condition. For the 10 teachers in the experimental group, the autonomy-supportive intervention program (ASIP) was delivered in three parts. Part 1 was a three-hour morning workshop offered prior to the beginning of the semester. During the workshop, teachers learned about their own motivating style, the benefits of autonomy support, and the costs of interpersonal control. Part 2 was a three-hour afternoon workshop to learn the "how to" of autonomy support. Teachers watched videotapes of other teachers (professional actors) modeling the six evidence-based autonomy-supportive instructional behaviors (see Chapter 6). Part 3 was a two-hour group discussion in which teachers shared their actual experiences in trying to implement autonomy-supportive teaching in their own classrooms. To assess the validity and effectiveness of the intervention program, the students of teachers in both conditions completed questionnaires to report their perceptions of their teacher's motivating style as well as their own motivation and classroom functioning at the beginning (Time 1, or T1), middle (T2), and end (T3) of the semester. In addition, a group of trained raters visited each teacher's classroom midway through the semester to rate objectively how frequently teachers actually used autonomy-supportive instructional behaviors during their instruction.

Results from the semester-long ASIP appear in Figure 17.2. The upper two figures report the evidence that the intervention produced its intended effect, while the lower two figures report the evidence that the intervention produced positive benefits. As shown in the upper-left panel, students of teachers in the control group reported that their teachers' autonomy support did not change throughout the semester ($4.34 = 4.21 = 4.29$), while students of teachers in the experimental group reported that their teachers became increasingly more autonomy supportive ($4.30 > 4.67 > 4.95$). As shown in the upper-right panel, the trained raters scored the teachers in the experimental group as enacting significantly more autonomy-supportive instructional behaviors than did teachers in the control group ($6.03 > 4.51$). Together, these two figures confirm that the intervention produced its intended effect in helping teachers in the experimental group teach in a more autonomy-supportive way.

The lower two figures report the evidence that the intervention produced positive benefits. As shown in the lower-left panel, students in the control group reported a level of autonomy need satisfaction that did not change throughout the semester ($4.28 = 4.33 = 4.37$), while students in the experimental group reported a steadily increasing level of autonomy need satisfaction ($4.28 > 4.72 > 4.95$). As shown in the lower-right panel, students in the control group reported a level of classroom engagement that did not change throughout the semester ($4.12 = 4.23 = 4.27$), while students in the experimental group reported a steadily increasing level of classroom engagement ($4.13 > 4.51 > 4.71$). Although not shown in Figure 17.2, students of teachers in the experimental group also showed steadily increasing levels of competence need satisfaction, relatedness need satisfaction, autonomous motivation, perceived skill development, and academic achievement, whereas the students of teachers in the control group did not.

Overall, this intervention is a success story because it shows that teachers can learn how to support students' psychological need satisfaction and, when they do, their students benefit in a number of important ways.



| OVERVIEW OF THE AUTONOMY-SUPPORTIVE INTERVENTION PROGRAM (ASIP) | | |
|---|----------------------------|--|
| Part 1 | Three-Hour Workshop | Teachers learn about motivating style, the benefits of autonomy support, and the costs of control. |
| Part 2 | Two-Hour "How to" Workshop | Teachers observed videotapes of the six autonomy-supportive instructional strategies to learn the "how to" of each behavior so they could enact them during their own classroom instruction. |
| Part 3 | Two-Hour Group Discussion | Teachers engaged in a group discussion to exchange ideas on autonomy-supportive teaching. |

Figure 17.1 Design of an Intervention to Support Students' Psychological Needs during Instruction

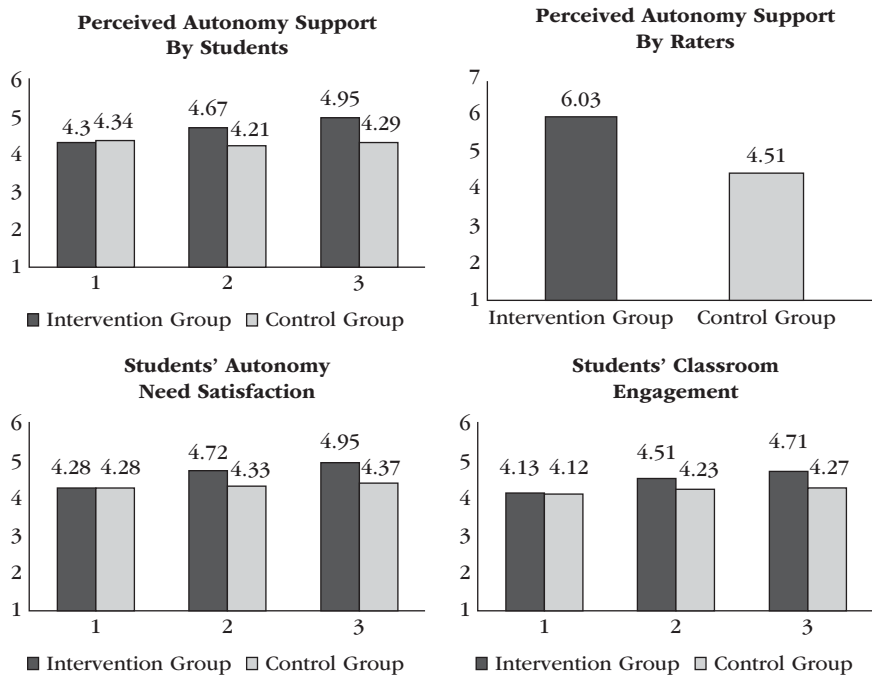


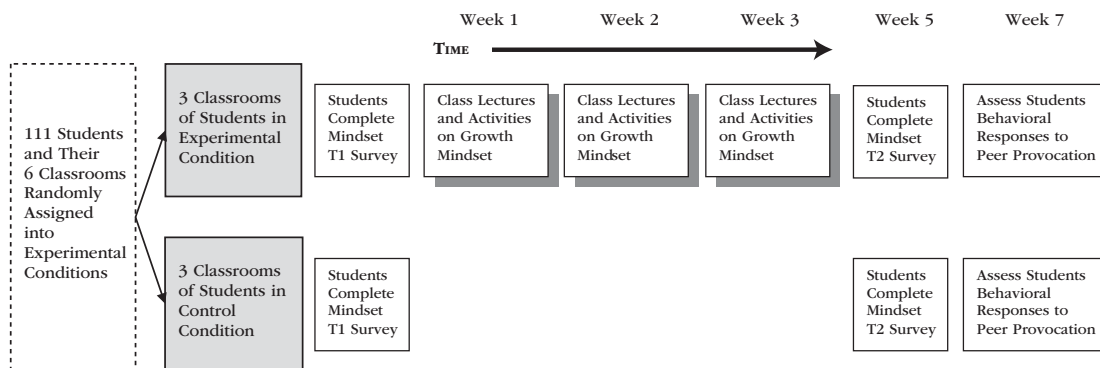
Figure 17.2 Results Showing That the Intervention Was Successful (Two Upper Panels) and Beneficial for Students (Two Lower Panels)

Intervention 2: Increasing a Growth Mindset

Here is an example of a cognition-based intervention. Adolescent aggression is a problem, especially when it takes on a violent tone. Some adolescent aggression is unprovoked, but most occurs as retaliation to peer conflict, social exclusion, and victimization. In a conflict, adolescents generally make a personality-like analysis of the other person's character. When a victim sees the other as a trait-like "bully," then the thinking is that the other (the aggressor) cannot change. This belief leads to aggressive retaliation, because harming the aggressor seems deserved. When a victim sees the other as someone who can change, however, then this belief tends to reduce aggressive retaliation and open up the possibility for a prosocial response. To the extent that this is true, then adolescents who embrace a fixed mindset—a belief that people cannot change their personalities—would be more likely to be aggressive than would adolescents who embrace a growth mindset, as discussed in Chapter 11.

Recognizing this, one group of researchers developed an intervention program to help adolescents endorse a growth mindset in thinking about people's personality. Specifically, the researchers developed, implemented, and tested the merits of a growth mindset workshop (Yeager, Trzesniewski, & Dweck, 2013). The growth-oriented mindset intervention appears on the lower half of Figure 17.3. The experimentally designed, longitudinally based empirical study implemented to test the validity and efficacy of the intervention appears on the upper half of Figure 17.3.

The study recruited 111 ninth- and tenth-grade students in several different high schools in the San Francisco area. Classrooms of students were randomly assigned into either the experimental or control condition. For the three classrooms of students in the experimental group, the growth mindset intervention was delivered over three consecutive weeks. In Week 1, students attended lectures and engaged in activities to teach them the science of a growth mindset, including the key idea that the brain changes with learning. In Week 2, students attended lectures and engaged in activities to teach



| OVERVIEW OF THE GROWTH MINDSET INTERVENTION | | |
|---|------------------------------------|---|
| Week 1 | 50-Minute Class 50-Minute Class | Students taught about neurons and how the brain changes with learning. Students taught that people have the capacity to change. |
| Week 2 | 50-Minute Class 50-Minute Class | Students taught that habits and personalities live in brains, and brains can change. Students taught that changing personality is hard, takes a long time, and requires a great deal of help from others, but it is always possible. |
| Week 3 | 50-Minute Class 50-Minute Class | Students taught that thoughts and feelings can also change. Students work through activities about how to think about peer conflict and aggression. |

Figure 17.3 Design of an Intervention to Increase a Growth Mindset

them that personalities live in brains and brains can change. In Week 3, students attended lectures to teach them that thoughts and feelings can also change, and they engaged in activities to help them think about peer conflict and aggression.

To assess the validity and effectiveness of the intervention program, students completed a questionnaire assessing the growth mindset two weeks before the start of the intervention and again two weeks after the intervention ended (Week 5). In Week 7, students played a “cyberball” activity in which they suffered an experience of peer exclusion. After the peer exclusion experience, participants were given an opportunity to behave in an aggressive (aggressive retaliation) or in a prosocial (write a friendly note) way.

Results from the three-week intervention appear in Figure 17.4. The single upper figure reports the evidence that the intervention produced its intended effect. Adolescents in the experimental group endorsed the growth mindset significantly more than did adolescents in the control group ($3.53 > 3.08$). The lower two figures report evidence that the intervention produced positive benefits. As shown in the lower-left panel, when adolescents were provoked by peer exclusion, those in the experimental group showed less aggressive behavior than did adolescents in the control group ($24.9 < 39.0$). As shown in the lower-right panel, when provoked, adolescents in the experimental group showed more prosocial behavior than did adolescents in the control group ($44.0 > 15.0$). Although not shown in Figure 17.4, the adolescents’ classroom teachers rated how aggressive each student had been over the last few weeks, with aggression being defined as making fun of other students, hitting, slapping, pushing, threatening, excluding, insulting, and spreading rumors. Teachers rated adolescents in the experimental group as significantly less aggressive than they rated adolescents in the control group.

Overall, the study showed that a school-based intervention that taught adolescents the science of the growth mindset was able to take the anger- and aggression-based edge out of peer conflict so that aggressive retaliation became less likely while prosocial behavior response became more likely.

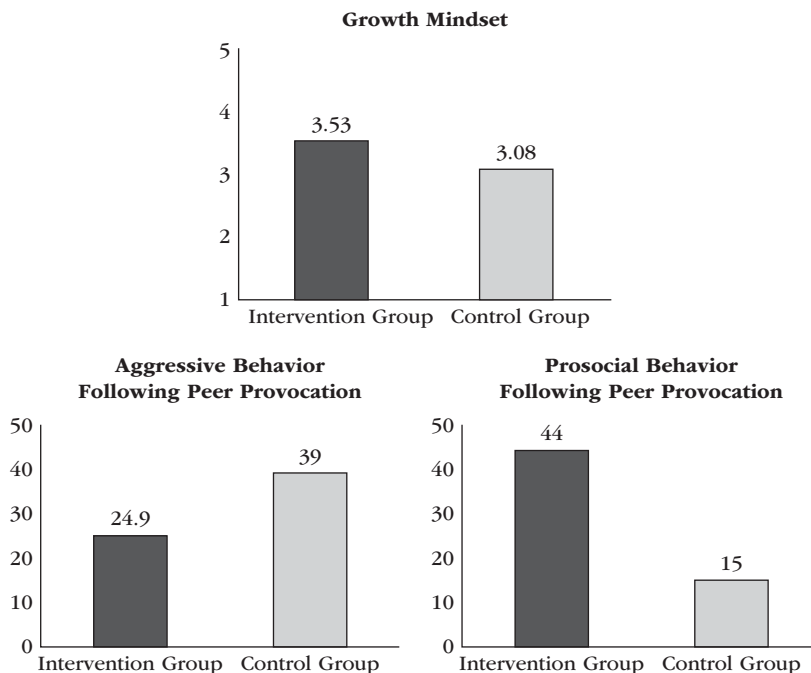


Figure 17.4 Results Showing That the Intervention Was Successful (Upper Panel) and Beneficial for Students (Two Lower Panels)

This intervention is a success story because it shows that adolescents can learn the growth mindset and, when they do, they begin to see personalities and patterns of behavior as malleable and open to improvement.

Intervention 3: Promoting Emotion Knowledge

Here is an example of an emotion-based intervention. Children with unsophisticated emotion knowledge are at risk of developing maladaptive behavior problems. Emotion knowledge involves a child's capacity to recognize emotional expressions in others, produce a correct label for those emotional expressions, and articulate the causes of basic emotions. Maladaptive behavior problems include interpersonal conflict, classroom disruptive behavior, aggressive behavior, and the absence of social competence. If children could develop their emotion knowledge and learn how to better utilize their positive emotions (interest, joy), then they would be better positioned to regulate their negative emotions (fear, anger) and maladaptive behavior problems. Recognizing this, one group of researchers developed an intervention preschool program to deliver an "Emotions Course" and an "Emotion-Based Prevention Program" to promote children's emotion knowledge (Izard et al., 2008).

In the Emotions Course, children engaged in activities (e.g., a puppet show) that provided opportunities to label basic emotions. Children also drew faces of emotional expressions to depict both the different emotions and different intensity levels of those emotions. The point of the Emotions Course was to increase children's skill in decoding or recognizing emotional expressions in others.

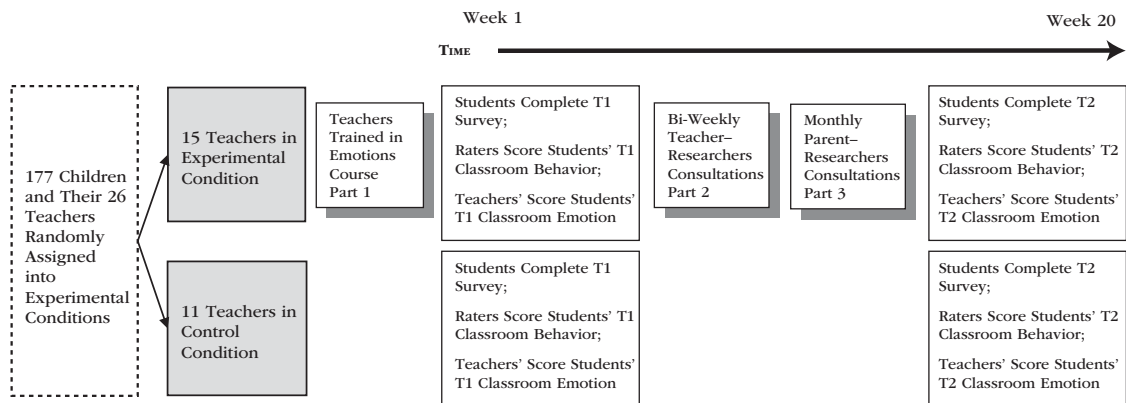
In the Emotion-Based Prevention Program, children engaged in activities that created mild emotions (reading books about characters that have emotional episodes) as teachers helped them articulate their feeling states, understand the causes of these emotions, and take action to regulate them. To regulate anger, for instance, children were taught to hug a pillow (to reduce anger-generated arousal), take three deep breaths, and then use words to negotiate.

The intervention program provided to promote children's emotion knowledge appears on the lower half of Figure 17.5. The experimentally designed, longitudinally based empirical study implemented to test the validity and efficacy of the intervention appears on the upper half of Figure 17.5.

The study recruited 177 preschool students and their 26 teachers who were involved in a low-income preschool Head Start program in the rural mid-Atlantic states. Teachers (and their students) were randomly assigned into either the experimental or control condition. For the 15 teachers in the experimental group, the Emotions Course (EC) and Emotion-Based Prevention (EBP) Program were delivered in three parts. Part 1 was a two-hour workshop before the semester began to help teachers learn how to teach the Emotions Course in their classrooms. For Part 2, a member from the research team observed the teacher's classroom on a biweekly basis and then provided a postclass consultation to refine and improve the teacher's delivery of the EC and EBP. In Part 3, researchers met with the parents of the 177 children on a monthly basis to discuss the EC content and its instructional strategies. In these meetings, parents discussed teachers' instructional techniques to help children understand, regulate, and utilize basic emotions.

The validity and effectiveness of the intervention program were assessed in three ways: (1) Children took an emotion knowledge test (e.g., view a photograph of an emotional facial expression and identify which emotion it is); (2) teachers rated the children on both emotion knowledge and frequency of expressing positive emotions (interest, joy) during class; and (3) trained raters objectively scored the frequency with which each child displayed negative emotional episodes during class. All these measures were scored the week before the intervention began (T1) and again at the end of the intervention (T2).

Results from the 20-week EC and EBP intervention program appear in Figure 17.6. The two upper figures report evidence that the intervention produced its intended effect, while the lower two figures report the evidence that the intervention produced positive benefits. As shown in the upper-left panel, children in the control group showed greater emotion knowledge (because they



| OVERVIEW OF THE EMOTIONS COURSE (EC) AND EMOTION-BASED PREVENTION PROGRAM (EBP) | | |
|---|---|---|
| Part 1 | Two-Hour Workshop | Teachers trained to administer the Emotions Course. |
| Part 2 | Biweekly Observations and Conversations | Researchers observed teachers deliver the classroom Emotions Course. Researchers conducted one-on-one biweekly consultations with each teacher. |
| Part 3 | Monthly Meetings | Parents met with researchers to discuss the Emotions Course and its instructional techniques. The meetings occurred once a month for four months. |

Figure 17.5 Design of an Intervention to Promote Emotion Knowledge

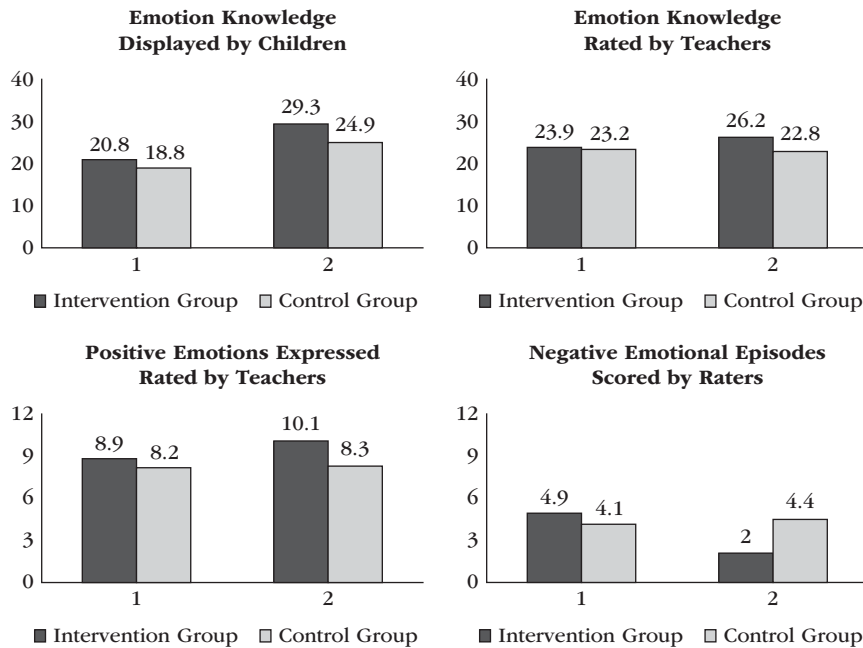


Figure 17.6 Results Showing That the Intervention Was Successful (Two Upper Panels) and Beneficial for Students (Two Lower Panels)

were now older; $18.8 > 24.9$), while children in the experimental group showed a significantly greater gain in their emotion knowledge ($20.8 > 29.3$). As shown in the upper-right panel, teachers rated children in the control group as showing the same emotion knowledge after 20 weeks ($23.2 = 22.8$), while teachers rated children in the experimental group as showing a significant increase in their emotion knowledge after 20 weeks ($23.9 > 26.2$).

As shown in the lower-left panel, teachers rated that the children in the control group expressed the same frequency of positive emotions after 20 weeks ($8.2 = 8.3$), while teachers rated that the children in the experimental group expressed positive emotions significantly more frequently after 20 weeks ($8.9 > 10.1$). As shown in the lower-right panel, raters scored the children in the control group as displaying the same number of negative emotional episodes after 20 weeks ($4.1 = 4.4$), while raters scored the children in the experimental group as displaying a significantly lower number of negative emotional episodes after 20 weeks ($4.9 > 2.0$). Although not shown in Figure 17.6, teachers rated children in their class as displaying fewer post-intervention negative emotions and more post-intervention social competence, while parents rated the children in the experimental group as displaying less post-intervention aggressive behavior and less post-intervention depressive behavior at home than did parents of children in the control group.

Overall, this intervention is a success story because it shows that children can increase their emotion knowledge and, when they do, they increase their capacity for effective emotion regulation.

WISDOM GAINED FROM A SCIENTIFIC STUDY OF MOTIVATION AND EMOTION

The book's 437 pages have reported a barrage of theories and empirical findings. In this final section, it is time to go beyond the collection of knowledge and now draw out the wisdom that might be gained from the effort to understand motivation and emotion. Here, are 17 pearls of wisdom—one extracted from each of the 17 chapters. Your own reflection on the key take-away from each chapter might

lead you to generate a different list from the one below, but perhaps the effort to generate such a list will help you open the door to seeing, understanding, and appreciating the wider implications of motivation and emotion study.

- Chapter 1** Human wants and desires can be discovered using scientific methods.
- Chapter 2** What we don't yet know about motivation and emotion exceeds what we do know.
- Chapter 3** The brain is as much about motivation and emotion as it is about cognition and thinking.
- Chapter 4** We underestimate how powerful biological urges can be when we are not currently experiencing them.
- Chapter 5** Quality of motivation is as important as is quantity of motivation.
- Chapter 6** To flourish, motivation needs supportive conditions, especially supportive relationships.
- Chapter 7** Implicit (unconscious) motives predict behavior better than do explicit (conscious) motives.
- Chapter 8** We do not do our best when we "try to do our best"; rather, we do our best when we have a specific action plan to pursue a difficult, specific, and self-concordant goal.
- Chapter 9** Two people with the same goal but a different mindset will pursue that goal in different ways.
- Chapter 10** Competent, enthusiastic functioning requires the two core beliefs of "I can do it" and "It will work."
- Chapter 11** Boosting self-esteem is a poor motivational strategy. What works is exerting self-control over short-term urges so to pursue a long-term goal.
- Chapter 12** All emotions are good; all emotions serve a functional purpose.
- Chapter 13** Other people are the source of most of our emotions.
- Chapter 14** The more sophisticated and complex our emotional repertoire is, the more likely we are to have the right emotion for every situation.
- Chapter 15** Encouraging growth is more productive than is curing weakness.
- Chapter 16** Motivation often arises from a source outside of conscious awareness.
- Chapter 17** There is nothing so practical as a good theory.

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